ANALYSIS

This ordinance repeals those provisions of Title 26 - Building Code of the Los Angeles County Code, which had incorporated portions of the 2010 Edition of the California Building Code by reference and replaces them with provisions incorporating portions of the 2013 California Building Code, published by the California Building Standards Commission, by reference, with certain changes and modifications.

State law requires that the County's Building Code contain the same requirements as are contained in the building standards published in the most recent edition of the California Building Code. State law allows the County to change or modify these requirements only if it determines that such changes or modifications are reasonably necessary because of local climatic, geological, or topographical conditions.

The changes and modifications to requirements contained in the building standards published in the 2013 California Building Code which are contained in this ordinance are based upon express findings, contained in the ordinance, that such changes are reasonably necessary due to local climatic, geological, or topographical conditions.

This ordinance also makes certain modifications to the administrative provisions of Title 26 and to certain chapters of Title 26 that relate to subjects not covered by the California Building Code.

JOHN F. KRATTLI
County Counsel

By Carole B. Suzuki
CAROLE B. SUZUKI
Deputy County Counsel
Public Works Division

CBS:gjv

Requested: 07/08/13
Revised: 10/23/13

ORDINANCE NO. _____

An ordinance amending Title 26 – Building Code of the Los Angeles County Code, by adopting the 2013 California Building Code, by reference, with certain changes and modifications, and making other revisions thereto.

The Board of Supervisors of the County of Los Angeles ordains as follows:

SECTION 1. Sections 119.1.2 through 119.1.14 of Chapter 1, Chapters 2 through 35, and Appendices C, I, and J, which incorporate by reference and modify portions of the 2010 California Building Code, are hereby repealed.

SECTION 2. Chapter 1 is hereby amended to read as follows:

100 ADOPTION BY REFERENCE

Except as hereinafter changed or modified, Sections 1.2 through 1.14 of Chapter 1 of Division I of that certain building code known and designated as the ~~2010~~2013 California Building Code, as published by the California Building Standards Commission, are adopted by reference and incorporated into this Title 26 of the Los Angeles County Code as if fully set forth below, and shall be known as Sections 119.1.2 through 119.1.14, respectively of Chapter 1 of Title 26 of the Los Angeles County Code.

Except as hereinafter changed or modified, Chapters 2 through 35 ~~(including Chapter 7A)~~, and Appendices C, I, and J of that certain building code known and designated as the ~~2010~~2013 California Building Code, as published by the California Building Standards Commission, are adopted by reference and incorporated into this Title 26 of the Los Angeles County Code as if fully set forth below, and shall be known

as Chapters 2 through 35, and Appendices C, I, and J of Title 26 of the Los Angeles County Code.

A copy of said California Building Code, hereinafter referred to as the CBC, including the above-designated appendices, shall be at all times maintained by the Building Official for use and examination by the public.

. . .

SECTION 102 UNSAFE BUILDINGS

. . .

102.2 Notice of Unsafe Building.

The Building Official shall examine or cause to be examined every building or structure or portion thereof reported as dangerous or damaged and, if, in the Building Official's opinion, such is found to be an unsafe building as defined in this Chapter, the Building Official shall give to the party concerned written notice stating the defects thereof. This notice may require the owner or person in charge of the building or premises, within 48 hours, to commence either the required repairs or improvements or demolition and removal of the building or structure or portions thereof and all such work shall be completed within 90 days from date of notice, unless otherwise stipulated by the Building Official. If necessary, such notice shall also require the building, structure, or portion thereof to be vacated forthwith and not reoccupied until the required repairs and improvements ~~be~~are completed, inspected and approved by the Building Official.

. . .102.4 Unsafe Buildings: Hearing.

. . .

102.4.5 Hearing by Building Board of Appeals.

The Building Board of Appeals shall hold a hearing and consider all competent evidence offered by any person pertaining to the matters set forth in the report of the Building Official.

The Building Board of Appeals shall make written findings of fact as to whether or not the building or structure is an unsafe building as defined in this Chapter.

When determined by the Building Official, the Building Rehabilitation Appeals Board shall hold the hearing in lieu of the Building Board of Appeals.

. . .

102.5 Unsafe Buildings; Demolition or Repair.

. . .

102.5.3 Costs.

. . .

The assessment shall be collected at the same time and in the same manner as ordinary County taxeds are collected and shall be subject to the same penalties and the same procedure and sale in case of delinquency as provided for ordinary County taxes. All the laws applicable to the levy, collection and enforcement of County taxes shall be applicable to such special assessment.

102.5.4 Interference pProhibited.

A person shall not obstruct, impede, or interfere with the Building Official or any representative of the bBuilding oOfficial, or with any person who owns or holds any estate or interest in any unsafe building which has been ordered by the Building Board

of Appeals to be repaired, vacated and repaired, or vacated and demolished or removed, whenever the Building Official or such owner is engaged in repairing, vacating and repairing, or demolishing any such unsafe building pursuant to this Chapter, or is performing any necessary act preliminary to or incidental to such work, or authorized or directed pursuant hereto.

. . .

SECTION 104 ORGANIZATION AND ENFORCEMENT

. . .

104.2 Powers and Duties of the Building Official.

. . .

104.2.8 Alternate Materials, Designs and Methods of Construction.

The provisions of this Code are not intended to prevent the use of any material, appliance, installation, device, arrangement, design, or method of construction not specifically prescribed by this Code~~, provided any such alternate has been approved~~.

The Building Official may approve on a case by case basis, any such alternate, provided that he or she finds that the material, appliance, installation, device, arrangement, design, or method of construction or work offered is, for the purpose intended, at least the equivalent of that prescribed in this Code in quality, strength, effectiveness, fire resistance, and other life-safety factors, durability, planning and

design, energy, material resource efficiency and conservation, environmental air quality, performance, water, and sanitation.

The ~~b~~Building ~~o~~Official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use.

. . .

SECTION 105 APPEALS BOARDS

. . .

105.5 Fees.

A fee of $439.20 shall be paid to the ~~b~~Building ~~o~~Official whenever a person requests a hearing or a rehearing before the appeals boards provided for in this Section.

. . .

SECTION 106 PERMITS

106.1 Permits Required.

No person shall erect, construct, enlarge, alter, repair, move, improve, remove, connect, convert, demolish, or equip any building, structure, or portion thereof, or automatic fire protection system regulated by Chapter 9, perform any grading, or perform landscaping as regulated by Chapter 2.7 of Division 2 of Title 23 of the California Code of Regulations (Model Water Efficient Landscape Ordinance) or perform landscaping on slopes requiring planting in conformance with Section J110, or cause the same to be done, without first obtaining a separate permit for each such building,

structure, automatic fire protection system, grading, or landscaping from the Building Official.

No person shall install, connect, move, remove, or equip any mobilehome, manufactured home, commercial modular, recreational vehicle or multifamily manufactured home subject to Sections 18300(f) or 18551 of the Health and Safety Code without first obtaining a separate permit.

~~**EXCEPTION:** A single permit may be issued for a dwelling and one accessory building of one-story construction, not over 600 square feet in area and on the same property.~~

. . .

106.3 Work Exempted.

A building permit shall not be required for the following:

1. One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the gross floor area does not exceed 120 square feet (11.15 m^2), the ~~plate~~ height does not exceed 12 feet (3.69 m) ~~in height above the grade plane at any point~~, and the maximum roof projection does not exceed 24 inches (610 mm).

2. Fences not over 6 feet (~~1829 mm~~1.8 m) in height which are not used as a barrier to private swimming pools, spas or hot tubs.

. . .

12. Sheds, office or storage buildings, and other structures that are less than 1,500 square feet (139 m^2) and incidental to and work authorized by a valid grading or

building permit. Such structures must be removed upon expiration of the permit or completion of the work covered by the permit.

. . .

13.3 It bears the Department of Motor Vehicles, State of California insignia of approval for movement on any highway.

. . .

16. Prefabricated swimming pools and other bodies of water accessory to a Group R-3 Occupancy that are less than 18 inches (0.46 m) deep, or do not exceed 5,000 gallons (18,927 L)~~,~~ and are installed entirely above adjacent grade.

17. Playground equipment accessory to Group R-3 occupancy.

18. One-story buildings or structures used as dog kennels, chicken coops, animal pens, or shade structures provided the gross floor area does not exceed 120 square feet (11.15m^2) and the height does not exceed 6 feet (1.8 m).

. . .

106.4 Application for Permits.

106.4.1 Application.

To obtain a permit, the applicant shall first file an application in writing on a form furnished for that purpose. Every such application shall:

. . .

4. Be accompanied by plans and specifications as required in ~~Subs~~Section ~~106.3.2~~106.4.2;

. . .

106.4.1.1 Expiration of Application.

When no permit is issued within one year following the date of the application therefor, the application shall automatically expire. Plans and specifications previously submitted may thereafter be returned to the applicant or destroyed by the Building Official. The Building Official may grant up to two extensions not exceeding 180 days per extension, beyond the initial one-year limit upon written request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken and upon the payment of an extension fee as determined by the Building Official, not to exceed 25 percent of the plan check fee.

Once an application, including ~~and~~ any extension(s) thereof ~~have~~has expired, the applicant shall file a new application, resubmit plans and specifications and pay a new plan checking or review fee.

106.4.2 Plans and s~~S~~pecifications.

Within each application for a building permit, and when required by the Building Official for enforcement of any provisions of this Code, two sets of plans and specifications shall be submitted. The Building Official may require plans and specifications to be prepared and designed by an engineer, architect or landscape architect licensed or registered by the state to practice as such. Submittals shall include construction inspection requirements as defined in Section 106.4.5.

Exception: When authorized by the Building Official, complete plans and specifications need not be submitted for the following when drawings and data sufficient to determine the nature and scope of the work are submitted for review:

1. One-story buildings of ~~Type V~~ conventional ~~wood-stud~~light-frame construction with a gross floor area not exceeding 600 square feet (55.74 m2);

2. Small and/or minor work.

. . .

106.4.3 Information on ~~p~~Plans and ~~s~~Specifications.

~~Plans and specifications shall be drawn to scale upon substantial paper or cloth and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that it will conform to the provisions of this Code and all relevant laws, ordinances, rules and regulations.~~Construction documents shall be dimensioned and drawn to scale upon suitable material. Electronic media documents are permitted to be submitted when approved by the Building Official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this Code and relevant laws, ordinances, rules, and regulations, as determined by the Building Official. The first sheet of each set of plans shall give the house and street address of the work and the name and address of the owner and persons who prepare them. Plans shall include a plot plan showing the location of the proposed building and of every existing building on the property. In lieu of detailed specifications, the Building Official may approve references on the plans to a specific section or part of this Code or other ordinances or laws.

Computations, stress diagrams and other data sufficient to show the correctness of the plans~~,~~ shall be submitted when required by the Building Official. ~~Plans for~~

~~buildings more than two stories in height of other than Group R-3 and Group U Occupancies shall indicate how required structural and fire-resistive integrity will be maintained where a penetration will be made for electrical, mechanical, plumbing and communications conduits, pipes and similar systems.~~

. . .

106.4.4 Architect or eEngineer of ~~r~~Record.

. . .

106.4.4.2 Deferred ~~s~~Submittals.

For the purposes of this Section, "deferred submittals" are defined as those portions of the design which are not submitted at the time of the application and which are to be submitted ~~to the Building Official within a specified period~~within a period specified by the Building Official.

. . .

106.4.5 ~~Construction i~~Inspection Program.

When special inspection is required by Chapter 17, the architect or engineer of record shall prepare an inspection program which shall be submitted to the Building Official for approval prior to issuance of the building permit. The inspection program shall designate the portions of the work that require special inspection ~~and the name or names of the individuals or firms who are to perform the special inspections,~~ and indicate the duties of the special inspectors.

. . .

106.5 Permits.

. . .

106.5.4 Expiration.

Every permit issued by the Building Official under the provisions of this Code shall expire by limitation and become null and void, if the building or work authorized by such permit is not commenced within 180 days from the date of such permit, or ~~if~~ the building or work authorized by such permit is suspended or abandoned for a period of 180 days, or the permittee fails to obtain inspection as required by the provisions of Section 108 of this Code ~~at any time after the work is commenced~~ for a period of 180 days. ~~Before such work can be commenced or recommenced, a new permit shall be first obtained, and the fee therefor shall be equal to 50 percent of the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work; and provided, further, that the duration of such failure to commence, suspension or abandonment has not exceeded one year.~~

Exception: Permits issued to abate violation(s) in conjunction with a code enforcement action shall expire and become null and void at a date determined by the Building Official.

~~Any permittee holding an unexpired permit may apply for an extension of time within which work may commence under that permit.~~ The Building Official may extend the time for action by the permittee for a period not exceeding 180 days from the date of expiration upon written request from the permittee and payment of a fee in an amount

determined by the Building Official, not to exceed 25 percent of the permit fee. No permit shall be extended more than twice.

~~In order to renew action on a permit after expiration, except as provided for above,~~Once a permit, including any extension(s) thereof, has expired, the permittee shall ~~pay a new full permit fee~~file a new application as specified in Section 106.4.

. . .

SECTION 107 FEES

107.1 Building Permit Fees.

In addition to a permit issuance fee of $28.30, a fee for each building permit shall be paid to the ~~b~~Building ~~o~~Official as set forth in Table 1-A.

The determination of value or valuation under any of the provisions of this code shall be made by the ~~b~~Building ~~o~~Official. The valuation to be used in computing the permit and plan check fees shall be the total value of all construction work for which the permit is issued, as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire protection systems and any other permanent work or permanent equipment.

. . .

107.2 Plan Checking or Review Fees for Buildings or Structures.

When an application for a building permit is submitted for review, whether or not plans and specifications are required by Section 106.4.2, a fee shall be paid to the

~~b~~Building ~~o~~Official. Said fee shall be equal to 85 percent of the building permit fee as set forth in Table 1-A, provided, however, the minimum fee shall be $83.70.

In addition to the aforementioned fees, the ~~b~~Building ~~o~~Official may require additional charges for review required by changes, additions or revisions of approved plans or reports, and for services beyond the first and second check due to changes, omissions or errors on the part of the applicant. The payment of said fees shall not exempt any person from compliance with other provisions of this ~~c~~Code.

The fees specified in this ~~s~~Section are separate fees from the permit fees specified in Section 107.1.

107.3 Standard Plans.

The ~~b~~Building ~~o~~Official may approve a set of plans for a building or structure as a "standard plan," provided that the applicant has made proper application, submitted complete sets of plans as required by this ~~s~~Section, and paid the plan checking fee required by Section 107.2, or $153.70, whichever is greater.

. . .

107.5 Grading Permit Fees.

In addition to a permit issuance fee of $28.30, a fee for each grading permit shall be paid to the ~~b~~Building ~~o~~Official as set forth in Table 1-B.

. . .

107.12 Refunds.

In the event that any person shall have obtained a permit and no portion of the work or construction covered by such permit shall have been commenced, and such

permit shall have been canceled either as provided for in ~~Subs~~Section 106.5.4 or ~~Subs~~Section 107.11, the permittee, upon presentation to said Building Official of a request therefor, in writing ~~on a special form~~, shall be entitled to a refund in an amount equal to 80 percent of the fee actually paid for such permit.

~~Upon verification of eligibility, the Building Official shall refund the applicable amount, provided the request has been submitted no later than one year after the expiration of the permit.~~

When approved by the Building Official and upon verification of eligibility, a refund may be processed provided the request has been submitted no later than one year after the expiration date of the permit.

No portion of the plan checking fee shall be refunded, unless no ~~checking~~ review has been performed on a set of plans, in which case 80 percent of the plan checking fee shall be refunded.

107.13 Investigation Fee for Work without Permit.

Whenever any work has been commenced without a permit as required by the provisions of Section 106.1 of this ~~c~~Code, a special investigation shall be made prior to the issuance of the permit. An investigation fee shall be collected for each permit so investigated. The investigation fee shall be equal to and in addition to the permit fees specified in Sections 107.1, 107.5, and 107.7, but in no event shall the investigation fee be less than $344.00.

Exception: The investigation fee shall be $171.90 when the ~~b~~Building ~~o~~Official has determined that the owner-builder of a one- or two-family dwelling, accessory

building or accessory structure had no knowledge that a permit was necessary and had not previously applied for a permit from the Building and Safety Division of the County of Los Angeles.

. . .

107.14 Noncompliance Fee.

If the ~~b~~Building ~~o~~Official or duly authorized board, in the course of enforcing the provisions of this ~~c~~Code or any state law, issues an order to stop work, vacate, or otherwise to a person and that person fails to comply with the order within 15 days following the due date for compliance stated in the order, including any extensions thereof, then the ~~b~~Building ~~o~~Official shall have the authority to collect a noncompliance fee.

. . .

107.16 Plan Maintenance Fee.

Before issuing a building permit, the ~~b~~Building ~~o~~Official shall collect a plan maintenance fee for all building plans which are required to be retained by Section 19850 of the Health and Safety Code.

The amount of the plan maintenance fee shall be 2 percent of the building permit fee as set forth in Table 1-A provided, however, that the minimum fee shall be $10.00 and the maximum fee shall be $430.30. A plan maintenance fee shall be collected for each separate plan to be retained by the ~~b~~Building ~~o~~Official.

. . .

107.17 Annual Review of Fees.

The fees in this Code shall be reviewed annually by the Director of Public Works. Beginning on July 1, 1992, and thereafter on each succeeding July 1, the amount of each fee in this Code shall be adjusted as follows: Calculate the percentage movement between March of the previous year and March of the current year in the Consumer Price Index (CPI) for all urban consumers in the Los Angeles, Anaheim and Riverside areas, as published by the United States Government Bureau of Labor Statistics. Adjust each fee by said percentage amount and round off to the nearest 10 cents, provided, however, that no adjustment shall decrease any fee and no fee shall exceed the reasonable cost of providing services. When it is determined that the amount reasonably necessary to recover the cost of providing services is in excess of this adjustment, the ~~b~~Building ~~o~~Official may present fee proposals to the Board of Supervisors for approval.

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107.19 Fee Exemption—Affordable Housing.

. . .

BUILDING FEE shall include plan check, permit and inspection fees required by Titles 26, 27, 28, ~~and~~ 29, 30 and 31 of the Los Angeles County Code.

. . .

SECTION 108 INSPECTIONS

108.1 General.

. . .

A site inspection may be required prior to plan check of building plans for lots or parcels in areas having slopes of 5 horizontal to 1 vertical (5:1) or steeper when the ~~b~~Building ~~e~~Official finds that a visual inspection of the site is necessary to establish drainage requirements for the protection of property, existing buildings or the proposed construction. The fee for such inspection shall be as set forth in Section 107.9. Such a preinspection shall not be required for a building pad graded under the provisions of Appendix J.

. . .

108.4 Required Inspections.

108.4.1 General.

Reinforcing steel or structural framework of any part of any building or structure shall not be covered or concealed without first obtaining the approval of the Building Official.

Protection of joints and penetrations in fire-resistive assemblies shall not be concealed from view until inspected and approved.

Upon notification from the permit holder or the permit holder's agent, the ~~b~~Building ~~e~~Official shall make the following inspections.

. . .

108.6 Special Inspector.

~~**108.6.1**~~

Before commencing duties, the special inspector shall be examined and shall obtain a certificate of registration from the ~~b~~Building ~~o~~Official. As to the written portion of the required examination, the ~~b~~Building ~~o~~Official may administer a written examination or the ~~b~~Building ~~o~~Official may require that a special inspector applicant successfully complete an examination administered by the International Code Council (ICC). Applications shall be made in writing and shall be accompanied by a fee of $249.60. When the ~~b~~Building ~~o~~Official requires the ICC Certificate in lieu of administering a written examination, the application shall be accompanied by proof of the required Certificate and a fee of $155.10. A separate application and a separate fee shall be required for each type of work. Applicants failing to pass an examination shall be ineligible for re-examination for a period of 30 days. A new application and fee shall accompany each request for re-examination. Unless sooner revoked, certificates of registration for special inspectors shall expire biennially on June 30, and must be renewed by payment of biennial renewal fee of $103.30.

Upon evidence, satisfactory to the ~~b~~Building ~~o~~Official, of the failure of a special inspector to perform properly and effectively the duties of said office, the ~~b~~Building ~~o~~Official may revoke, suspend or refuse to renew any certificate of registration. Prior to such action, the holder shall be given an opportunity to appear before the ~~b~~Building ~~o~~Official and be heard.

~~**108.6.2**~~ For special inspections, see Chapter 17.

. . .

SECTION 109 USE AND OCCUPANCY

109.1 General.

No building or structure or portion thereof shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the Building Official has approved the building or structure or portion thereof for such use or occupancy as evidenced by the issuance of a certificate of occupancy or a temporary certificate of occupancy. A building of Group R-1, R-2, R-2.1, R-3, R-3.1, or R-4 Occupancy, if erected on a site where grading has been performed pursuant to a grading permit issued under provisions of this Code, shall not be occupied, nor shall gas or electric utilities be connected thereto, unless the grading has been completed in accordance with Appendix J or the Building Official has found, should the grading not be so completed, that the site conditions will pose no hazard to health, safety, or welfare of occupants and/or occupants of adjacent properties, and that a temporary certificate of occupancy has been issued.

. . .

SECTION 110 PROHIBITED USES OF BUILDING SITES

110.1 Flood Hazard.

110.1.1 Buildings are not permitted in an area determined by the Building Official to be subject to flood hazard by reason of inundation, overflow or erosion.

The placement of the building and other structures (including walls and fences) on the building site shall be such that water or mud flow will not be a hazard to the building or adjacent property. Subject to the conditions of Section 110.1.2, this prohibition shall not apply when provision is made to eliminate such hazard to the satisfaction of the ~~Department of Public Works~~ Building Official by providing adequate drainage facilities by protective walls, suitable fill, raising the floor level of the building, a combination of these methods, or by other means. The ~~Department of Public Works~~ Building Official, in the application of this Section for buildings, structures, and grading located in whole or in part in flood hazard areas, shall enforce, as a minimum, the current Federal Flood Plain Management Regulations defined in Title 44, Code of Federal Regulations, Section 60.3, and may require the applicant or property owner to provide the following information and/or comply with the following provisions:

1. Delineation of flood hazard areas, floodway boundaries and flood zones, and the design flood elevation, as appropriate;

2. The elevation of the proposed lowest floor, including basement, in flood hazard areas ~~of shallow flooding~~ (A~~O~~ Zones), and the height of the proposed lowest floor, including basement, above the highest adjacent grade;

. . .

110.2 Geotechnical Hazards.

. . .

110.2.3.4

When the proposed work involves an addition or additions to an existing structure but is not a change in use or occupancy and such work does not increase the gross floor area of the structure by more than 25 percent of the area of the structure as it existed on July 6, 1968, and the ~~b~~Building ~~e~~Official determines that the proposed work will not impact a historically active landslide. Before a permit may be issued pursuant to this ~~s~~Section, the owner shall do all of the following:

1. Submit an engineering geology and/or soils engineering report or reports that contain(s), at a minimum, a qualitative and/or a conditional finding that the proposed work complies with the provisions of Section ~~111~~110.2.1.

. . .

110.2.3.7

When the proposed work involves a one-story, detached, light-frame accessory structure not intended or used for human occupancy and not exceeding 400 square feet in gross floor area nor 12 feet in height. Before a permit may be issued pursuant to this ~~s~~Section, the owner shall do all of the following:

1. When required by the Building Official, submit an engineering geology and/or soils engineering report or reports that contain, at a minimum, a qualitative and/or conditional finding that the proposed work complies with the provisions of Section 110.2.1.

~~1.~~2. Record in the office of the Department of Registrar-Recorder a statement by the owner acknowledging that the owner is aware that the records of the Building

Official indicate that the property is potentially subject to hazard from landslide, settlement, or slippage.

~~2.~~3. Record in the office of the Department of Registrar-Recorder an agreement relieving the County and all officers and employees thereof of any liability for any damage or loss which may result from issuance of such a permit. This agreement shall provide that it is binding on all successors in interest of the owner and shall continue in effect until the Building Official records in the office of the Department of Registrar-Recorder a statement that the Building Official has determined that such hazard from landslide, settlement, or slippage no longer exists.

110.2.3.8

When the Building Official determines that the hazard from landslide, settlement, or slippage is based solely on the fact that the area has been identified as a potentially liquefiable area in a seismic hazard zone (pursuant to Public Resources Code section 2690 et seq.) and a foundation investigation is performed in connection with the work in accordance with Section ~~1806~~1803 of this Code.

. . .

110.2.3.10

When the proposed work involves the repair and restoration of a ~~natural (non-graded)~~ slope. Before a permit may be issued pursuant to this ~~s~~Section, the owner shall submit an engineering geology and/or soils engineering report or reports that contain(s) the following:

1. A description and analysis of the existing conditions, including the cause or causes of the failed slope.

2. Recommendations for the repair of the failed slope.

3. A qualitative and/or conditional finding that the proposed work complies with the provisions of Section 110.2.1 of this Code.

4. An analysis demonstrating that future failures originating from the repaired portion of the slope will not impact previously permitted structures.

5. An analysis demonstrating that the proposed work will improve existing slope stability.

110.3 Fills Containing Decomposable Material.

Permits shall not be issued for buildings or structures regulated by this Code within (1,000) feet (304.8 m) of fills containing rubbish or other decomposable material unless the fill is isolated by approved natural or artificial protective systems or unless designed according to the recommendation contained in a report prepared by a licensed civil engineer. Such report shall contain a description of the investigation, study and recommendation to minimize the possible intrusion, and to prevent the accumulation of explosive concentrations of decomposition gases within or under enclosed portions of such building or structure. At the time of the final inspection, the civil engineer shall furnish a signed statement attesting that the building or structure has been constructed in accordance with the civil engineer's recommendations as to decomposition gases required herein.

Exception: When approved by the Building Official, mitigation of decomposition gases shall not be required for additions to single family dwellings not exceeding 400 square feet in gross floor area and/or alterations to single family dwellings.

. . .

110.4 Methane Gas Hazards.

Permits shall not be issued for new buildings or enclosed structures regulated by this Code on, adjacent to, or within ~~25~~300 feet (~~7.62~~91.44 m) of active, abandoned or idle oil or gas well(s) unless designed according to recommendations contained in a report prepared by a registered design professional, such as a licensed civil engineer and/or a licensed petroleum engineer,~~approved by the Building Official. In addition, permits shall not be issued for a building or structure regulated by this Code located between 25 feet (7.62 m) and 200 feet (60.96 m) from active, abandoned or idle oil or gas well(s) unless designed according to the recommendations contained in a report prepared by a licensed civil engineer and approved by the Building Official or all active, abandoned or idle oil or gas well(s) between 25 feet (7.62 m) and 200 feet (60.96 m) from said building or structure are examined by a licensed petroleum engineer~~ to evaluate whether~~, in accordance with the current rules and regulations of the Division of Oil and Gas and Geothermal Resources of the State of California,~~ such wells are being properly operated or maintained, or are abandoned. No permits shall be issued until ~~certification~~documentation of proper operation, maintenance, or abandonment or reabandonment~~, as determined by the Division of Oil and Gas and Geothermal Resources,~~ is submitted to and approved by the Building Official. ~~This requirement is~~

~~not applicable to active, abandoned or idle oil or gas well(s) located more than 200 feet (60.96 m) from the proposed buildings or structures.~~

Exception: When approved by the Building Official, mitigation of methane gas hazards shall not be required for additions or alterations to existing buildings or structures located no closer than 200 feet (60.96 m) to active, abandoned or idle oil or gas well(s).

As used in this Section, "well" shall mean any well as defined by Section 3008, Subdivisions (a), (b), and (c) of the California Public Resources Code.

. . .

SECTION 113 EARTHQUAKE FAULTS

. . .

113.5 Construction Limitations.

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1. When the proposed building is within (50) feet (15.24 m) of that line designated by the ~~b~~Building ~~o~~Official as the assumed location of a known active earthquake fault on the aforementioned maps.

. . .

SECTION 3. Chapter 7A is hereby amended to read as follows:

CHAPTER 7A [SFM]

MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE

Note: This Chapter has been amended by Los Angeles County and is applicable to all occupancy groups.

SECTION 4. Section 701A.1 is hereby amended to read as follows:

701A.1 Scope.

This ~~c~~Chapter applies to building materials, systems, and/or assemblies used in the exterior design and construction of new buildings ~~located~~, and to additions, alterations, or repairs made to existing buildings, erected, constructed, or moved within a Wildland-Urban Interface Fire Area as defined in Section 702A.

SECTION 5. Section 701A.3 is hereby amended to read as follows:

701A.3 Application.

New buildings, and any additions, alterations, or repairs made to existing buildings located in or moved within any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area designated by the ~~enforcing agency~~Los Angeles County Fire Department constructed after the application date shall comply with the provisions of this ~~c~~Chapter.

Exceptions:

. . .

~~4. Additions to and remodels of buildings originally constructed prior to the applicable application date.~~

SECTION 6. Section 701A.3.1 is hereby amended to read as follows:

701A.3.1 Application date and where required.

New buildings for which an application for a building permit is submitted on or

after July 1, 2008, and any additions, alterations, or repairs made to existing buildings for which an application for a building permit is submitted on or after January 1, 2014, located in any Fire Hazard Severity Zone or Wildland Interface Fire Area shall comply with all ~~s~~Sections of this ~~c~~Chapter, including all of the following areas:

. . .

Exception:

1. ~~New b~~Buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all ~~s~~Sections of this ~~c~~Chapter.

2. ~~New b~~Buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland Interface Fire Area designated by cities and other local agencies for which an application for a building permit is submitted on or after December 1, 2005, but prior to July 1, 2008, shall only comply with the following ~~s~~Sections of this ~~c~~Chapter:

. . .

SECTION 7. Section 701A.4 is hereby amended to read as follows:

701A.4 Inspection and certification.

Building permit applications and final completion approvals for buildings within the scope and application of this ~~c~~Chapter shall comply with the following:

1. Building permit issuance. The ~~local b~~Building ~~o~~Official shall, prior to construction, provide the owner or applicant a certification that the building as proposed to be built complies with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this ~~c~~Chapter. Issuance of a building permit by the ~~local b~~Building ~~o~~Official for the proposed building shall be considered as complying with this ~~s~~Section.

2. Building permit final. The ~~local b~~Building ~~o~~Official shall, upon completion of construction, provide the owner or applicant with a copy of the final inspection report that demonstrates the building was constructed in compliance with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this ~~c~~Chapter. Issuance of a certificate of occupancy by the ~~local b~~Building ~~o~~Official for the proposed building shall be considered as complying with this ~~s~~Section.

SECTION 8. Section 702A is hereby amended to read as follows:

702A DEFINITIONS

. . .

FIRE PROTECTION PLAN is a document prepared for a specific project or development proposed for a Wildland-Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.

The Fire Protection Plan shall be in accordance with this ~~c~~Chapter and the ~~California~~Title 32 - Fire Code of the Los Angeles County Code, Chapter 49. When required by the enforcing agency for the purposes of granting modifications, a fire

protection plan shall be submitted. ~~Only locally adopted ordinances that have been filed with the California Building Standards Commission or the Department of Housing and Community Development in accordance with Section 1.1.8 shall apply.~~

FIRE HAZARD SEVERITY ZONES are geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code ~~S~~sections 51175 through 51189. See ~~California~~Title 32 - Fire Code of the Los Angeles County Code, ~~Article 86~~Chapter 49.

. . .

WILDLAND-URBAN INTERFACE FIRE AREA is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code ~~S~~sections 4201 through 4204 and Government Code ~~S~~sections 51175 through 51189, or other areas designated by the ~~enforcing agency~~Los Angeles County Fire Department to be at a significant risk from wildfires.

SECTION 9. Section 703A.2 is hereby amended to read as follows:

703A.2 Qualification by testing.

Material and material assemblies tested in accordance with the requirements of Section 703A shall be accepted for use when the results and conditions of those tests are met. Product evaluation testing of material and material assemblies shall be approved or listed by the State Fire Marshal, the Building Official, or identified in a current report issued by an approved agency.

SECTION 10. Section 703A.3 is hereby amended to read as follows:

703A.3 Approved agency.

Product evaluation testing shall be performed by an approved agency as defined in Section 1702. The scope of accreditation for the approved agency shall include building product compliance with this ~~c~~Code.

SECTION 11. Section 703A.5.2 is hereby amended to read as follows:

703A.5.2 Weathering.

Fire-retardant-treated wood ~~and fire-retardant-treated wood shingles and shakes~~ shall meet the fire test performance requirements of this ~~c~~Chapter after being subjected to the weathering conditions contained in the following standards, as applicable to the materials and the conditions of use.

SECTION 12. Section 703A.5.2.2 is hereby deleted in its entirety.

~~**703A.5.2.2 Fire-retardant-treated wood shingles and shakes.**~~

~~Fire-retardant-treated wood shingles and shakes shall be approved and listed by the State Fire Marshal in accordance with Section 208(c), Title 19 California Code of Regulations.~~

SECTION 13. Section 703A.6 is hereby amended to read as follows:

703A.6 Alternates for materials, design, tests, and methods of construction.

The enforcing agency is permitted to modify the provisions of this ~~c~~Chapter for site-specific conditions in accordance with Chapter 1, Section ~~1.11.2.4~~104.2.7. When required by the ~~enforcing agency~~Building Official for the purposes of granting

modifications, a fire protection plan shall be submitted in accordance with the ~~California~~Title 32 - Fire Code of the Los Angeles County Code, Chapter 49.

SECTION 14. Section 704A.3 is hereby amended to read as follows:

704A.3 Alternative methods for determining ignition-resistant material.

. . .

~~3. Fire-retardant-treated wood shingles and shakes. Fire-retardant-treated wood shingles and shakes, as defined in section 1505.6 and listed by State Fire Marshal for use as "Class B" roof covering, shall be accepted as an Ignition-resistant wall covering material when installed over solid sheathing.~~

SECTION 15. Section 705A.2 is hereby amended to read as follows:

705A.2 Roof coverings.

Roof coverings shall be Class A as specified in Section 1505.2. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be firestopped with approved materials or have one layer of minimum 72 pound (32.4 kg) mineral-surfaced non-perforated cap sheet complying with ASTM D 3909 installed over the combustible decking. Wood shingles and wood shakes are prohibited in any Fire Hazard Severity Zones regardless of classification.

SECTION 16. Section 706A.3 is hereby amended to read as follows:

706A.3 Ventilation openings on the underside of eaves and cornices.

. . .

Exceptions:

1. The ~~enforcing agency~~Building Official may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.

. . .

SECTION 17. Section 710A.3.2 is hereby amended to read as follows:

710A.3.2

When required by the ~~enforcing agency~~Building Official, detached accessory structures within 50 feet of an applicable building shall comply with the requirements of this ~~s~~Section.

SECTION 18. Section 710A.4 is hereby amended to read as follows:

710A.4 Requirements.

When required by the ~~enforcing agency~~Building Official, accessory structures shall be constructed of noncombustible or ignition-resistant materials.

SECTION 19. Section 1029.4 is hereby amended to read as follows:

1029.4 Operational constraints.

. . .

Where security bars (burglar bars) are installed on emergency egress and rescue windows or doors, ~~on or after July 1, 2000,~~ such devices shall comply with California Building Standards Code, Part 12, Chapter 12-3 and other applicable provisions of Part 2.

. . .

SECTION 20. Section 1507.3.1 is hereby amended to read as follows:

1507.3.1 Deck requirements.

Concrete and clay tile shall be installed only over solid ~~sheathing or spaced~~ structural sheathing boards.

SECTION 21. Table 1507.3.7 is hereby amended to read as follows:

TABLE 1507.3.7

CLAY AND CONCRETE TILE ATTACHMENT [a, b, c]

GENERAL – CLAY OR CONCRETE ROOF TILE				
Maximum Nominal Design Wind Speed, V_{asd} [f] (mph)	**Mean roof height (feet)**	**Roof slope up to <3:12**	**Roof slope 3:12 and over**	
85	0 - 60	*Minimum slope: 2.5:12* ~~One fastener per tile. Flat tile without vertical laps,~~ Two fasteners per tile.	Two fasteners per tile. ~~Only one fastener on slopes of 7:12 and less for tiles with installed weight exceeding 7.5 lbs/sq. ft. having a width no greater than 16 inches.~~	
100	0 - 40			
. . .	. . .	. . .		
INTERLOCKING CLAY OR CONCRETE ROOF TILE WITH PROJECTING ANCHOR LUGS [d, e] (Installations on ~~spaced/~~solid sheathing with battens ~~or spaced sheathing~~)				
Maximum Nominal Design Wind Speed, V_{asd} [f] (mph)	**Mean roof height (feet)**	**Roof slope up to <5:12**	**Roof slope 5:12<12:12**	**Roof slope 12:12 and over**
85	0 - 60	~~Fasteners are not required. Tiles with installed weight less than 9 lbs/sq. ft. require a minimum of o~~ Minimum slope is 4:12. ~~O~~ One fastener per tile.	One fastener per tile ~~every other row. All perimeter tiles require one fastener~~. Tiles with installed weight less than 9 lbs/sq.ft. require a minimum of one fastener per tile.	One fastener required for every tile. Tiles with installed weight less than 9 lbs./sq. ft. require a minimum of one fastener per tile.
100	0 - 40			
. . .	. . .	. . .		
INTERLOCKING CLAY OR CONCRETE ROOF TILE WITH PROJECTING ANCHOR LUGS (Installations on solid sheathing without battens)				
Maximum Nominal Design Wind Speed, V_{asd} [f] (mph)	**Mean roof height (feet)**	~~All~~ **Minimum roof slopes 4 units vertical in 12 units horizontal Maximum slope 7 units vertical in 12 units horizontal**		
. . .	. . .	. . .		

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s, 1 pound per square foot = 4.882 kg/m^2.

[a] Minimum fastener size. Hot dipped galvanized ring shank or other ~~C~~corrosion-resistant nails not less than No. 11 gage with $^5/_{16}$-inch head. Fasteners shall be long enough to penetrate into the sheathing 0.75 inch or through the thickness of the sheathing, whichever is less. Attaching wire for clay and concrete tile shall not be smaller than 0.083 inch and shall be copper, brass or stainless steel.

. . .

SECTION 22. Section 1613.6 is hereby added to read as follows:

1613.6 Modifications to ASCE 7

The text of ASCE 7 shall be modified as indicated in Sections 1613.6.1 through 1613.6.3.

1613.6.1 ASCE 7, 12.12.3.

Modify ASCE 7 Equation 12.12-1 of Section 12.12.3 to read as follows:

$$\delta_M = \frac{C_d \delta_{max}}{I}$$

(Equation 12.12-1)

1613.6.2 ASCE 7, 12.2.3.1, Exception 3.

Modify ASCE 7, Section 12.2.3.1, Exception 3 to read as follows:

3. Detached one- and two-family dwellings up to two stories in height of light frame construction.

1613.6.3 ASCE 7, Section 12.11.2.2.3.

Modify ASCE 7, Section 12.11.2.2.3, to read as follows:

12.11.2.2.3 Wood diaphragms.

In wood diaphragms, the continuous ties shall be in addition to the diaphragm sheathing. Anchorage shall not be accomplished by use of toe nails or nails subject to withdrawal nor shall wood ledgers or framing be used in cross-grain bending or cross-grain tension. The diaphragm sheathing shall not be considered effective as providing ties or struts required by this Section.

For structures assigned to Seismic Design Category D, E, or F, wood diaphragms supporting concrete or masonry walls shall comply with the following:

1. The spacing of continuous ties shall not exceed 40 feet. Added chords of diaphragms may be used to form subdiaphragms to transmit the anchorage forces to the main continuous crossties.

2. The maximum diaphragm shear used to determine the depth of the subdiaphragm shall not exceed 75 percent of the maximum diaphragm shear.

SECTION 23. Section 1613.7 is hereby added to read as follows:

1613.7 Seismic design provisions for hillside buildings.

1613.7.1 Purpose.

The purpose of this Section is to establish minimum regulations for the design and construction of new buildings and additions to existing buildings when constructing such buildings on or into slopes steeper than one unit vertical in three units horizontal (33.3 percent). These regulations establish minimum standards for seismic force resistance to reduce the risk of injury or loss of life in the event of earthquakes.

1613.7.2 Scope.

The provisions of this Section shall apply to the design of the lateral-force-resisting system for hillside buildings at and below the base level diaphragm. The design of the lateral-force-resisting system above the base level diaphragm shall be in accordance with the provisions for seismic and wind design as required elsewhere in this Chapter.

Exceptions:

1. Non-habitable accessory buildings and decks not supporting or supported from the main building are exempt from these regulations.

2. Additions to existing buildings that do not exceed 10 percent of the existing floor area provided that the addition is being supported completely by the existing foundation.

1613.7.3 Definitions.

For the purposes of this Section certain terms are defined as follows:

BASE LEVEL DIAPHRAGM is the floor at, or closest to, the top of the highest level of the foundation.

DIAPHRAGM ANCHORS are assemblies that connect a diaphragm to the adjacent foundation at the uphill diaphragm edge.

DOWNHILL DIRECTION is the descending direction of the slope approximately perpendicular to the slope contours.

FOUNDATION is concrete or masonry which supports a building, including footings, stem walls, retaining walls, and grade beams.

FOUNDATION EXTENDING IN THE DOWNHILL DIRECTION is a foundation running downhill and approximately perpendicular to the uphill foundation.

HILLSIDE BUILDING is any building or portion thereof constructed on or into a slope steeper than one unit vertical in three units horizontal (33.3 percent). If only a portion of the building is supported on or into the slope, these regulations apply to the entire building.

PRIMARY ANCHORS are diaphragm anchors designed for and providing a direct connection as described in Sections 1613.7.5 and 1613.7.7.3 between the diaphragm and the uphill foundation.

SECONDARY ANCHORS are diaphragm anchors designed for and providing a redundant diaphragm to foundation connection, as described in Sections 1613.7.6 and 1613.7.7.4.

UPHILL DIAPHRAGM EDGE is the edge of the diaphragm adjacent and closest to the highest ground level at the perimeter of the diaphragm.

UPHILL FOUNDATION is the foundation parallel and closest to the uphill diaphragm edge.

1613.7.4 Analysis and design.

1613.7.4.1 General.

Every hillside building within the scope of this Section shall be analyzed, designed, and constructed in accordance with the provisions of this Chapter. When the code-prescribed wind design produces greater effects, the wind design shall govern, but detailing requirements and limitations prescribed in this Section and all referenced Sections shall be followed.

1613.7.4.2 Base level diaphragm-downhill direction.

The following provisions shall apply to the seismic analysis and design of the connections for the base level diaphragm in the downhill direction.

1613.7.4.2.1 Base for lateral force design defined.

For seismic forces acting in the downhill direction, the base of the building shall be the floor at, or closest to, the top of the highest level of the foundation.

1613.7.4.2.2 Base shear.

In developing the base shear for seismic design, the response modification coefficient (R) shall not exceed 5 for bearing wall and building frame systems. The total base shear shall include the forces tributary to the base level diaphragm including forces from the base level diaphragm.

1613.7.5 Base shear resistance-primary anchors.

1613.7.5.1 General.

The base shear in the downhill direction shall be resisted through primary anchors from diaphragm struts provided in the base level diaphragm to the foundation.

1613.7.5.2 Location of primary anchors.

A primary anchor and diaphragm strut shall be provided in line with each foundation extending in the downhill direction. Primary anchors and diaphragm struts shall also be provided where interior vertical lateral-force-resisting elements occur above and in contact with the base level diaphragm. The spacing of primary anchors and diaphragm struts or collectors shall in no case exceed 30 feet (9,144 mm).

1613.7.5.3 Design of primary anchors and diaphragm struts.

Primary anchors and diaphragm struts shall be designed in accordance with the requirements of Section 1613.7.8.

1613.7.5.4 Limitations.

The following lateral-force-resisting elements shall not be designed to resist seismic forces below the base level diaphragm in the downhill direction:

1. Wood structural panel wall sheathing;
2. Cement plaster and lath;
3. Gypsum wallboard; and
4. Tension-only braced frames.

Braced frames designed in accordance with the requirements of Section 2205.2.2 may be used to transfer forces from the primary anchors and diaphragm struts to the foundation provided lateral forces do not induce flexural stresses in any member of the frame or in the diaphragm struts. Deflections of frames shall account for the variation in slope of diagonal members when the frame is not rectangular.

1613.7.6 Base shear resistance-secondary anchors.

1613.7.6.1 General.

In addition to the primary anchors required by Section 1613.7.5, the base shear in the downhill direction shall be resisted through secondary anchors in the uphill foundation connected to diaphragm struts in the base level diaphragm.

Exception: Secondary anchors are not required where foundations extending in the downhill direction spaced at not more than 30 feet (9,144 mm) on center extend up to and are directly connected to the base level diaphragm for at least 70 percent of the diaphragm depth.

1613.7.6.2 Secondary anchor capacity and spacing.

Secondary anchors at the base level diaphragm shall be designed for a minimum force equal to the base shear, including forces tributary to the base level diaphragm, but not less than 600 pounds per lineal foot (8.76 kN/m). The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of four feet (1,219 mm) on center.

1613.7.6.3 Design.

Secondary anchors and diaphragm struts shall be designed in accordance with Section 1613.7.8.

1613.7.7 Diaphragms below the base level-downhill direction.

The following provisions shall apply to the lateral analysis and design of the connections for all diaphragms below the base level diaphragm in the downhill direction.

1613.7.7.1 Diaphragm defined.

Every floor level below the base level diaphragm shall be designed as a diaphragm.

1613.7.7.2 Design force.

Each diaphragm below the base level diaphragm shall be designed for all tributary loads at that level using a minimum seismic force factor not less than the base shear coefficient.

1613.7.7.3 Design force-resistance-primary anchors.

The design force described in Section 1613.7.7.2 shall be resisted through primary anchors from diaphragm struts provided in each diaphragm to the foundation.

Primary anchors shall be provided and designed in accordance with the requirements and limitations of Section 1613.7.5.

1613.7.7.4 Design force-resistance-secondary anchors.

1613.7.7.4.1 General.

In addition to the primary anchors required in Section 1613.7.7.3, the design force in the downhill direction shall be resisted through secondary anchors in the uphill foundation connected to diaphragm struts in each diaphragm below the base level.

Exception: Secondary anchors are not required where foundations extending in the downhill direction, spaced at not more than 30 feet (9,144 mm) on center, extend up to and are directly connected to each diaphragm below the base level for at least 70 percent of the diaphragm depth.

1613.7.7.4.2 Secondary anchor capacity.

Secondary anchors at each diaphragm below the base level diaphragm shall be designed for a minimum force equal to the design force but not less than 300 pounds per lineal foot (4.38 kN/m). The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of four feet (1,219 mm) on center.

1613.7.7.4.3 Design.

Secondary anchors and diaphragm struts shall be designed in accordance with Section 1613.7.8.

1613.7.8 Primary and secondary anchorage and diaphragm strut design.

Primary and secondary anchors and diaphragm struts shall be designed in accordance with the following provisions:

1. Fasteners. All bolted fasteners used to develop connections to wood members shall be provided with square plate washers at all bolt heads and nuts. Washers shall be minimum 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. Nuts shall be tightened to finger tight plus one half (1/2) wrench turn prior to covering the framing.

2. Fastening. The diaphragm to foundation anchorage shall not be accomplished by the use of toenailing, nails subject to withdrawal, or wood in cross-grain bending or cross-grain tension.

3. Size of Wood Members. Wood diaphragm struts, collectors, and other wood members connected to primary anchors shall not be less than three-inch (76 mm) nominal width. The effects of eccentricity on wood members shall be evaluated as required per Item 9.

4. Design. Primary and secondary anchorage, including diaphragm struts, splices, and collectors shall be designed for 125 percent of the tributary force.

5. Allowable Stress Increase. The one-third allowable stress increase permitted under Section 1605.3.2 shall not be taken when the working (allowable) stress design method is used.

6. Steel Element of Structural Wall Anchorage System. The strength design forces for steel elements of the structural wall anchorage system, with the exception of anchor bolts and reinforcing steel, shall be increased by 1.4 times the forces otherwise required.

7. Primary Anchors. The load path for primary anchors and diaphragm struts shall be fully developed into the diaphragm and into the foundation. The foundation must be shown to be adequate to resist the concentrated loads from the primary anchors.

8. Secondary Anchors. The load path for secondary anchors and diaphragm struts shall be fully developed in the diaphragm but need not be developed beyond the connection to the foundation.

9. Symmetry. All lateral force foundation anchorage and diaphragm strut connections shall be symmetrical. Eccentric connections may be permitted when demonstrated by calculation or tests that all components of force have been provided for in the structural analysis or tests.

10. Wood Ledgers. Wood ledgers shall not be used to resist cross-grain bending or cross-grain tension.

1613.7.9 Lateral-force-resisting elements normal to the downhill direction.

1613.7.9.1 General.

In the direction normal to the downhill direction, lateral-force-resisting elements shall be designed in accordance with the requirements of this Section.

1613.7.9.2 Base shear.

In developing the base shear for seismic design, the response modification coefficient (R) shall not exceed 5 for bearing wall and building frame systems.

1613.7.9.3 Vertical distribution of seismic forces.

For seismic forces acting normal to the downhill direction the distribution of seismic forces over the height of the building using Section 12.8.3 of ASCE 7 shall be determined using the height measured from the top of the lowest level of the building foundation.

1613.7.9.4 Drift limitations.

The story drift below the base level diaphragm shall not exceed 0.007 times the story height at strength design force level. The total drift from the base level diaphragm to the top of the foundation shall not exceed 3/4 inch (19 mm). Where the story height or the height from the base level diaphragm to the top of the foundation varies because of a stepped footing or story offset, the height shall be measured from the average height of the top of the foundation. The story drift shall not be reduced by the effect of horizontal diaphragm stiffness.

1613.7.9.5 Distribution of lateral forces.

1613.7.9.5.1 General.

The design lateral force shall be distributed to lateral-force-resisting elements of varying heights in accordance with the stiffness of each individual element.

1613.7.9.5.2 Wood structural panel sheathed walls.

The stiffness of a stepped wood structural panel shear wall may be determined

by dividing the wall into adjacent rectangular elements, subject to the same top of wall deflection. Deflections of shear walls may be estimated by AF&PA SDPWS Section 4.3.2. Sheathing and fastening requirements for the stiffest section shall be used for the entire wall. Each section of wall shall be anchored for shear and uplift at each step. The minimum horizontal length of a step shall be eight feet (2438 mm) and the maximum vertical height of a step shall be two feet, eight inches (813 mm).

1613.7.9.5.3 Reinforced concrete or masonry shear walls.

Reinforced concrete or masonry shear walls shall have forces distributed in proportion to the rigidity of each section of the wall.

1613.7.9.6 Limitations.

The following lateral force-resisting-elements shall not be designed to resist lateral forces below the base level diaphragm in the direction normal to the downhill direction:

1. Cement plaster and lath;
2. Gypsum wallboard; and
3. Tension-only braced frames.

Braced frames designed in accordance with the requirements of Section 2205.2.2 of this Code may be designed as lateral-force-resisting elements in the direction normal to the downhill direction, provided lateral forces do not induce flexural stresses in any member of the frame. Deflections of frames shall account for the variation in slope of diagonal members when the frame is not rectangular.

1613.7.10 Specific design provisions.

1613.7.10.1 Footings and grade beams.

All footings and grade beams shall comply with the following:

1. Grade beams shall extend at least 12 inches (305 mm) below the lowest adjacent grade and provide a minimum 24-inch (610 mm) distance horizontally from the bottom outside face of the grade beam to the face of the descending slope.

2. Continuous footings shall be reinforced with at least two No. 4 reinforcing bars at the top and two No. 4 reinforcing bars at the bottom.

3. All main footing and grade beam reinforcement steel shall be bent into the intersecting footing and fully developed around each corner and intersection.

4. All concrete stem walls shall extend from the foundation and be reinforced as required for concrete or masonry walls.

1613.7.10.2 Protection against decay and termites.

All wood to earth separation shall comply with the following:

1. Where a footing or grade beam extends across a descending slope, the stem wall, grade beam, or footing shall extend up to a minimum 18 inches (457 mm) above the highest adjacent grade.

Exception: At paved garage and doorway entrances to the building, the stem wall need only extend to the finished concrete slab, provided the wood framing is protected with a moisture proof barrier.

2. Wood ledgers supporting a vertical load of more than 100 pounds per lineal foot (1.46 kN/m) and located within 48 inches (1219 mm) of adjacent grade are

prohibited. Galvanized steel ledgers and anchor bolts, with or without wood nailers, or treated or decay resistant sill plates supported on a concrete or masonry seat, may be used.

1613.7.10.3 Sill plates.

All sill plates and anchorage shall comply with the following:

1. All wood framed walls, including nonbearing walls, when resting on a footing, foundation, or grade beam stem wall, shall be supported on wood sill plates bearing on a level surface.

2. Power-driven fasteners shall not be used to anchor sill plates except at interior nonbearing walls not designed as shear walls.

1613.7.10.4 Column base plate anchorage.

The base of isolated wood posts (not framed into a stud wall) supporting a vertical load of 4000 pounds (17.8 kN) or more and the base plate for a steel column shall comply with the following:

1. When the post or column is supported on a pedestal extending above the top of a footing or grade beam, the pedestal shall be designed and reinforced as required for concrete or masonry columns. The pedestal shall be reinforced with a minimum of four No. 4 bars extending to the bottom of the footing or grade beam. The top of exterior pedestals shall be sloped for positive drainage.

2. The base plate anchor bolts or the embedded portion of the post base, and the vertical reinforcing bars for the pedestal, shall be confined with two No. 4 or three No. 3 ties within the top five inches (127 mm) of the concrete or masonry

pedestal. The base plate anchor bolts shall be embedded a minimum of 20 bolt diameters into the concrete or masonry pedestal. The base plate anchor bolts and post bases shall be galvanized and each anchor bolt shall have at least two galvanized nuts above the base plate.

1613.7.10.5 Steel beam to column supports.

All steel beam to column supports shall be positively braced in each direction. Steel beams shall have stiffener plates installed on each side of the beam web at the column. The stiffener plates shall be welded to each beam flange and the beam web. Each brace connection or structural member shall consist of at least two 5/8 inch (15.9 mm) diameter machine bolts.

SECTION 24. Section 1704.2.3 is hereby amended to read as follows:

1704.2.3 Statement of special inspections.

The applicant shall submit a statement of *special inspections* in accordance with Section ~~107.1 *Chapter 1, Division II*~~ 106.4, as a condition for permit issuance. This statement shall be in accordance with Section 1704.3.

. . .

SECTION 25. Section 1704.5 is hereby amended to read as follows:

1704.5 Structural observations.

Where required by the provisions of Section 1704.5.1 or 1704.5.2, the owner shall employ a ~~registered design professional~~structural observer to perform structural observations as defined in Section 1702. The structural observer shall be one of the following individuals:

1. The registered design professional responsible for the structural design, or

2. A registered design professional designated by the registered design professional responsible for the structural design.

Prior to the commencement of observations, the structural observer shall submit to the ~~b~~Building ~~o~~Official a written statement identifying the frequency and extent of structural observations.

~~At the conclusion of the work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.~~

The owner or owner's representative shall coordinate and call a preconstruction meeting between the structural observer, contractors, affected subcontractors, and special inspectors. The structural observer shall preside over the meeting. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load resisting systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the report submitted to the Building Official.

Observed deficiencies shall be reported in writing to the owner or owner's representative, special inspector, contractor, and the Building Official. Upon the form prescribed by the Building Official, the structural observer shall submit to the Building Official a written statement at each significant construction stage stating that the site visits have been made and identifying any reported deficiencies which, to the best of the

structural observer's knowledge, have not been resolved. A final report by the structural observer which states that all observed deficiencies have been resolved is required before acceptance of the work by the Building Official.

SECTION 26. Section 1704.5.1 is hereby amended to read as follows:

1704.5.1 Structural observations for seismic resistance.

. . .

3. The structure ~~is assigned to Seismic Design Category E,~~ is classified as Risk Category I or II in accordance with Table 1604.5, and ~~is greater than two stories one stories above grade plane~~a lateral design is required for the structure or portion thereof.

Exception: One-story wood framed Group R-3 and Group U Occupancies less than 2000 square feet in area, provided the adjacent grade is not steeper than 1 unit ~~vertical in 10 units horizontal (10 percent sloped), assigned to Seismic Design Category D.~~

. . .

SECTION 27. Section 1705.3 is hereby amended to read as follows:

1705.3 Concrete Construction.

The special inspections and verifications for concrete construction shall be as required by this ~~s~~Section and Table 1705.3.

Exception: Special inspection shall not be required for:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock where the structural design of the

footing is based on a specified compressive strength (f'c) not greater than 2,500 pounds per square inch (psi) (17.2 Mpa) regardless of the compressive strength specified in the construction documents or used in the footing construction.

. . .

~~4. Concrete foundation walls constructed in accordance with Table 1807.1.6.2.~~

~~5~~4. Concrete patios, ~~driveways~~ and sidewalks, on grade.

SECTION 28. Table 1705.3 is hereby amended to read as follows:

TABLE 1705.3

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE STANDARD[a]	IBC REFERENCE
. . .	. . .	. . .	. . .	. . .
3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used.	–	X	ACI 318: D.9.2 ~~8.1.3, 21.1.8~~	1908.5, ~~1909.1~~
4. Inspection of anchors post-installed in hardened concrete members[b].	–	~~X~~	~~ACI 318: 3.8.6, 8.1.3, 21.1.8~~	~~1909.1~~
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X		ACI 318:D.9.2.4	–
b. Mechanical anchors and adhesive anchors not defined in 4.a.		X	ACI 318: D.9.2	–
. . .	. . .	. . .	. . .	. . .

. . .

b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with ACI 355.2, D.9.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the ~~b~~Building ~~o~~Official prior to the commencement of the work.

SECTION 29. Section 1705.11 is hereby amended to read as follows:

1705.11 Special inspections for seismic resistance.

. . .

Exception: Special inspections itemized in Sections 1705.11.1 through 1705.11.8 are not required for structures designed and constructed in accordance with one of the following:

. . .

3. The structure is a detached one- or two-family dwelling not exceeding two stories above grade plane, provided the structure is not assigned to Seismic Design Category D, E, or F and does not have any of the following plan or vertical irregularities in accordance with Section 12.3 of ASCE 7:

. . .

SECTION 30. Section 1807.1.4 is hereby amended to read as follows:

1807.1.4 Permanent wood foundations systems.

Permanent wood foundation systems shall be designed and installed in accordance with AF&PA PWF. Lumber and plywood shall be treated in accordance with AWPA U1 (Commodity Specification A, Use Category 4B and Section 5.2) and shall be identified in accordance with Section 2303.1.8.1. Permanent wood foundation systems shall not be used for structures assigned to Seismic Design Category D, E, or F.

SECTION 31. Section 1807.1.6 is hereby amended to read as follows:

1807.1.6 Prescriptive design of concrete and masonry foundation walls.

Concrete and masonry foundation walls that are laterally supported at the top and bottom shall be permitted to be designed and constructed in accordance with this ~~s~~Section. Prescriptive design of foundation walls shall not be used for structures assigned to Seismic Design Category D, E, or F.

SECTION 32. Section 1809.3 is hereby amended to read as follows:

1809.3 Stepped footings.

. . .

For structures assigned to Seismic Design Category D, E, or F, the stepping requirement shall also apply to the top surface of grade beams supporting walls. Footings shall be reinforced with four 1/2-inch diameter (12.7 mm) deformed reinforcing bars. Two bars shall be placed at the top and bottom of the footings as shown in Figure 1809.3.

SECTION 33. Figure 1809.3 is hereby added to read as follows:

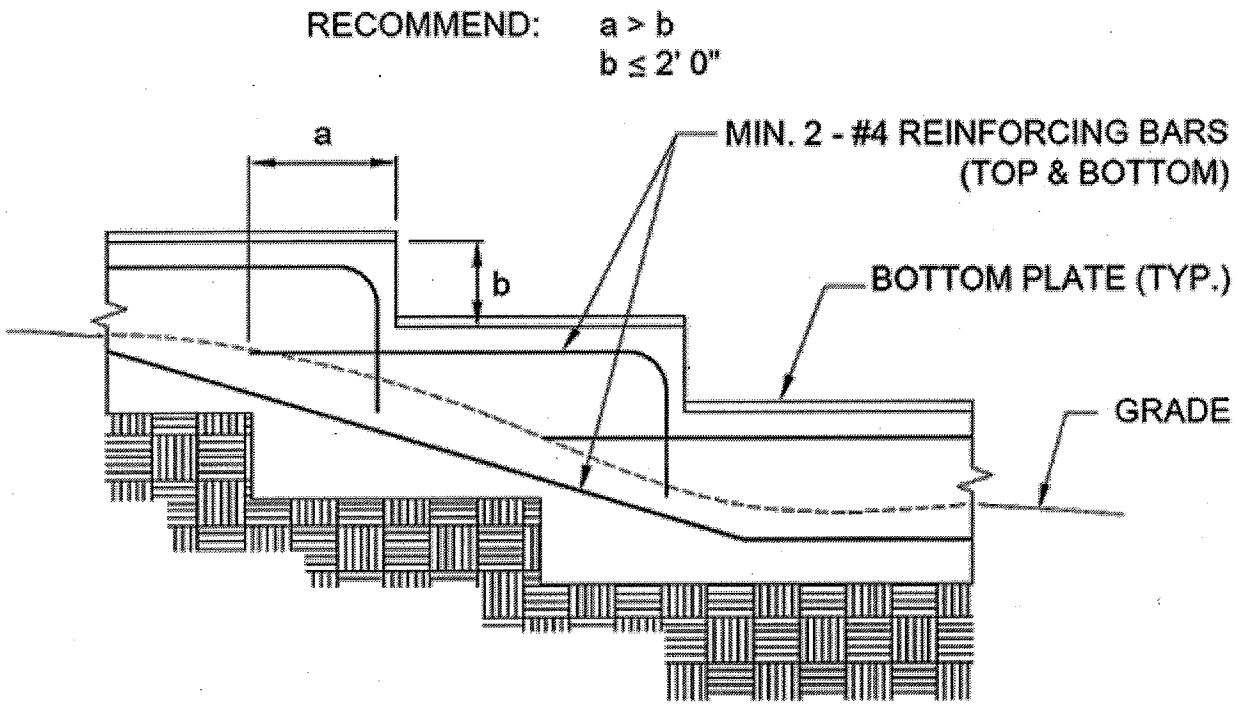


FIGURE 1809.3

STEPPED FOOTING

SECTION 34. Section 1809.7 is hereby amended to read as follows:

1809.7 Prescriptive footings for light-frame construction.

Where a specific design is not provided, concrete or masonry-unit footings supporting walls of light-frame construction shall be permitted to be designed in accordance with Table 1809.7. Prescriptive footings in Table 1809.7 shall not exceed one story above grade plane for structures assigned to Seismic Design Category D, E, or F.

SECTION 35. Table 1809.7 is hereby amended to read as follows:

TABLE 1809.7

PRESCRIPTIVE FOOTINGS SUPPORTING WALLS OF

LIGHT-FRAME CONSTRUCTION [a, b, c, d, e]

NUMBER OF FLOORS SUPPORTED BY THE FOOTING[f]	WIDTH OF FOOTING (inches)	THICKNESS OF FOOTING (inches)
1	12	6
2	15	6
3	18	8[g]

. . .

c. ~~Interior stud-bearing walls shall be permitted to be supported by isolated footings. The footing width and length shall be twice the width shown in this table, and footings shall be spaced not more than 6 feet on center.~~[Reserved].

. . .

~~g. Plain concrete footings for Group R-3 occupancies shall be permitted to be 6 inches thick.~~

SECTION 36. Section 1809.12 is hereby amended to read as follows:

1809.12 Timber footings.

Timber footings shall be permitted for buildings of Type V construction and as otherwise approved by the ~~b~~Building ~~o~~Official. Such footings shall be treated in accordance with AWPA U1 (Commodity Specification A, Use Category 4B). Treated timbers are not required where placed entirely below permanent water level, or where used as capping for wood piles that project above the water level over submerged or marsh lands. The compressive stresses perpendicular to grain in untreated timber

footing supported upon treated piles shall not exceed 70 percent of the allowable stresses for the species and grade of timber as specified in the AF&PA NDS. Timber footings shall not be used in structures assigned to Seismic Design Category D, E, or F.

SECTION 37. Section 1905.1 is hereby amended to read as follows:

1905.1 General.

The text of ACI 318 shall be modified as indicated in Sections 1905.1.1 through ~~1905.1.10~~1905.1.12.

SECTION 38. Section 1905.1.3 is hereby amended to read as follows:

1905.1.3 ACI 318, Section 21.4.

. . .

21.4.5 – ~~Wall piers in Seismic Design Category D, E, or F shall comply with Section 1905.1.4 of the California Building this Code.~~ In structures assigned to Seismic Design Category D, E, or F, intermediate precast wall panels and wall piers shall be designed in accordance with Section 21.9 or 21.13.

. . .

SECTION 39. Section 1905.1.8 is hereby amended to read as follows:

1905.1.8 ACI 318, Section 22.10.

Delete ACI 318, Section 22.10, and replace with the following:

. . .

22.10.1 – Structures assigned to Seismic Design Category C, D, E, or F shall not have elements of structural plain concrete, except as follows:

(a) ~~Structural plain concrete basement, foundation or other walls below the base are permitted in detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls. In dwellings assigned to Seismic Design Category D or E, the height of the wall shall not exceed 8 feet (2438 mm), the thickness shall not be less than 7½ inches (190 mm), and the wall shall retain no more than 4 feet (1219 mm) of unbalanced fill. Walls shall have reinforcement in accordance with 22.6.6.5.~~Concrete used for fill with a minimum cement content of two (2) sacks of Portland cement per cubic yard.

(b) Isolated footings of plain concrete supporting pedestals or columns are permitted, provided the projection of the footing beyond the face of the supported member does not exceed the footing thickness.

~~Exception: In detached one- and two-family dwellings three stories or less in height, the projection of the footing beyond the face of the supported member is permitted to exceed the footing thickness.~~

(c) Plain concrete footings supporting walls are permitted, provided the footings have at least two continuous longitudinal reinforcing bars. Bars shall not be smaller than No. 4 and shall have a total area of not less than 0.002 times the gross cross-sectional area of the footing. ~~For footings that exceed 8 inches (203 mm) in thickness, a~~A minimum of one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be provided at corners and intersections.

~~*Exceptions:*~~

~~*1. In Seismic Design Categories A, B and C, detached one- and two-family dwellings three stories or less in height and constructed with stud-bearing walls, plain concrete footings without longitudinal reinforcement supporting walls are permitted*~~*with at least two continuous longitudinal reinforcing bars not smaller than No. 4 are permitted to have a total area of less than 0.002 times the gross cross-sectional area of the footing.*

~~*2. For foundation systems consisting of a plain concrete footing and a plain concrete stemwall, a minimum of one bar shall be provided at the top of the stemwall and at the bottom of the footing.*~~

~~*3. Where a slab on ground is cast monolithically with the footing, one No. 5 bar is permitted to be located at either the top of the slab or bottom of the footing.*~~

SECTION 40. Section 1905.1.9 is hereby amended to read as follows:

1905.1.9 ACI 318, Section D.3.3.

These requirements shall be applicable to all buildings. Modify ACI 318 Sections D.3.3.4.2, D.3.3.4.3 (d) and D.3.3.5.2 and replace with the following:

. . .

SECTION 41. Section 1905.1.10 is hereby added to read as follows:

1905.1.10. ACI 318, Section 21.6.4.1.

Modify ACI 318, Section 21.6.4, by adding Section 21.6.4.8 and 12.6.4.9 to read as follows:

21.6.4.8 Where the calculated point of contraflexure is not within the middle half of the member clear height, provide transverse reinforcement as specified in ACI 318, Sections 21.6.4.1, Items (a) through (c), over the full height of the member.

21.6.4.9 At any section where the design strength, φP_n, of the column is less than the sum of the shears V_e computed in accordance with ACI 318 Sections 21.5.4.1 and 21.6.5.1 for all the beams framing into the column above the level under consideration, transverse reinforcement as specified in ACI 318 Sections 21.6.4.1 through 21.6.4.3 shall be provided. For beams framing into opposite sides of the column, the moment components may be assumed to be of opposite sign. For the determination of the design strength, φP_n, of the column, these moments may be assumed to result from the deformation of the frame in any one principal axis.

SECTION 42. Section 1905.1.11 is hereby added to read as follows:

1905.1.11. ACI 318, Section 21.9.4.

Modify ACI 318, Section 21.9.4, by adding Section 21.9.4.6 to read as follows:

21.9.4.6 Walls and portions of walls with $P_u > 0.35P_o$ shall not be considered to contribute to the calculated strength of the structure for resisting earthquake-induced forces. Such walls shall conform to the requirements of ACI 318 Section 21.13.

SECTION 43. Section 1905.1.12 is hereby added to read as follows:

1905.1.12 ACI 318, Section 21.11.6.

Modify ACI 318, by adding Section 21.11.6.1, to read as follows:

21.11.6.1 Collector and boundary elements in topping slabs placed over precast floor and roof elements shall not be less than 3 inches (76 mm) or 6 d_b thick, where d_b is the diameter of the largest reinforcement in the topping slab.

SECTION 44. Section 2304.9.1 is hereby amended to read as follows:

2304.9.1 Fastener requirements.

Connections for wood members shall be designed in accordance with the appropriate methodology in Section 2301.2. The number and size of fasteners connecting wood members shall not be less than that set forth in Table 2304.9.1. Staple fasteners in Table 2304.9.1 shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E, or F.

Exception: Staples may be used to resist or transfer seismic forces when the allowable shear values are substantiated by cyclic testing and approved by the Building Official.

SECTION 45. Table 2304.9.1 is hereby amended to read as follows:

TABLE 2304.9.1

FASTENING SCHEDULE[q]

. . .

q. Staples shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E, or F.

SECTION 46. Section 2304.11.7 is hereby amended to read as follows:

2304.11.7 Wood used in retaining walls and cribs.

Wood installed in retaining or crib walls shall be preservative treated in accordance with AWPA U1 (Commodity Specifications A or F) for soil and fresh water use. Wood shall not be used in retaining or crib walls for structures assigned to Seismic Design Category D, E, or F.

SECTION 47. Section 2305.4 is hereby added to read as follows:

2305.4 Quality of nails.

In Seismic Design Category D, E, or F, mechanically driven nails used in wood structural panel shear walls shall meet the same dimensions as that required for hand-driven nails, including diameter, minimum length, and minimum head diameter. Clipped head or box nails are not permitted in new construction. The allowable design value for clipped head nails in existing construction may be taken at no more than the nail-head-area ratio of that of the same size hand-driven nails.

SECTION 48. Section 2305.5 is hereby added to read as follows:

2305.5 Hold-down connectors.

In Seismic Design Category D, E or F, hold-down connectors shall be designed to resist shear wall overturning moments using 75 percent of the allowable seismic load values. Such values shall be established in a valid research report from approved sources in accordance with Section 104.11.1 or by accepted engineering practice and the provisions of this ~~c~~Code.

Exception: Values established by specialized cyclic and dynamic testing may be used when approved by the Building Official in accordance with Section 104.11.2.

Connector bolts into wood framing shall require steel plate washers on the post on the opposite side of the anchorage device. Plate size shall be a minimum of 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. Hold-down connectors shall be tightened to finger tight plus one half (1/2) wrench turn just prior to covering the wall framing.

SECTION 49. Section 2306.2 is hereby amended to read as follows:

2306.2 Wood-frame diaphragms.

Wood-frame diaphragms shall be designed and constructed in accordance with AF&PA SDPWS. Where panels are fastened to framing members with staples, requirements and limitations of AF&PA SDPWS shall be met and the allowable shear values set forth in Table 2306.2(1) or 2306.2(2) shall only be permitted for structures assigned to Seismic Design Category A, B, or C.

Exception: Allowable shear values where panels are fastened to framing members with staples may be used if such values are substantiated by cyclic testing and approved by the Building Official.

The allowable shear values in Tables 2306.2(1) and 2306.2(2) are permitted to be increased 40 percent for wind design.

Exception: [DSA-SS, DSA-SS/CC and OSHPD 1, 2 &4] Wood structural panel diaphragms using staples as fasteners are not permitted by DSA and OSHPD.

Wood structural panel diaphragms used to resist seismic forces in structures assigned to Seismic Design Category D, E or F shall be applied directly to the framing members.

Exception: Wood structural panel diaphragms are permitted to be fastened over solid lumber planking or laminated decking, provided the panel joints and lumber planking or laminated decking joints do not coincide.

SECTION 50. Section 2306.3 is hereby amended to read as follows:

2306.3 Wood-frame shear walls.

Wood-frame shear walls shall be designed and constructed in accordance with AF&PA SDPWS. For structures assigned to Seismic Design Category D, E, or F, application of Tables 4.3A and 4.3B of AF&PA SDPWS shall include the following:

1. Wood structural panel thickness for shear walls shall not be less than 3/8 inch thick and studs shall not be spaced at more than 16 inches on center.

2. The maximum nominal unit shear capacities for three-ply plywood resisting seismic forces in structures assigned to Seismic Design Category D, E or F is 400 pounds per linear foot (plf).

3. Where shear design values using allow stress design (ASD) exceed 350 plf or load and resistance factor design (LRFD) exceed 500 plf, all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch nominal member, or two 2-inch nominal members fastened together in accordance with Section 2306.1 to transfer the design shear value between framing members. Wood structural panel joint and sill plate nailing shall be staggered at all panel edges. See

Sections 4.3.6.1 and 4.3.6.4.3 of AF&PA SDPWS for sill plate size and anchorage requirements.

4. Nails shall be placed not less than 1/2 inch from the panel edges and not less than 3/8 inch from the edge of the connecting members for shear greater than 350 plf using ASD or 500 plf using LRFD. Nails shall be placed not less than 3/8 inch from panel edges and not less than 1/4 inch from the edge of the connecting members for shears of 350 plf or less using ASD or 500 plf or less using LRFD.

5. Table 4.3B application is not allowed for structures assigned to Seismic Design Category D, E, or F.

For structures assigned to Seismic Design Category D, application of Table 4.3C of AF&PA SDPWS shall not be used below the top level in a multi-level building for structures.

Where panels are fastened to framing members with staples, requirements and limitations of AF&PA SDPWS shall be met and the allowable shear values set forth in Table 2306.3(1), 2306.3(2) or 2306.3(3) shall only be permitted for structures assigned to Seismic Design Category A, B, or C.

Exception: Allowable shear values where panels are fastened to framing members with staples may be used if such values are substantiated by cyclic testing and approved by the Building Official.

The allowable shear values in Tables 2306.3(1) and 2306.3(2) are permitted to be increased 40 percent for wind design. Panels complying with ANSI/APA PRP-210 shall be permitted to use design values for Plywood Siding in the AF&PA SDPWS.

Exception: [DSA-SS, DSA-SS/CC and OSHPD 1, 2 &4] *Wood structural panel diaphragms using staples as fasteners are not permitted by DSA and OSHPD.*

Wood structural panel shear walls used to resist seismic forces in structures assigned to Seismic Design Category D, E, or F shall be applied directly to the framing members.

SECTION 51. Section 2307.2 is hereby added to read as follows:

2307.2 Wood-frame panel shear walls.

Wood-frame shear walls shall be designed and constructed in accordance with Section 2306.3 as applicable.

SECTION 52. Section 2308.3.4 is hereby amended to read as follows:

2308.3.4 Braced wall line support.

. . .

Exception: For structures with a maximum plan dimension not over 50 feet 15,240 mm), continuous foundations are required at exterior walls only for structures assigned to Seismic Design Category A, B, or C.

SECTION 53. Section 2308.9.3.1 is hereby amended to read as follows:

2308.9.3.1 Alternative bracing.

Any bracing required by Section 2308.9.3 is permitted to be replaced by the following:

1. In one-story buildings, each panel shall have a length of not less than 2 feet 8 inches (813 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with 3/8-inch-minimum-thickness (9.5 mm) wood

structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table 2304.9.1 and blocked at wood structural panel edges. For structures assigned to Seismic Design Category D or E, each panel shall be sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing nailed with 8d common nails spaced 3 inches on panel edges, 3 inches at intermediate supports. Two anchor bolts installed in accordance with Section 2308.6 shall be provided in each panel. Anchor bolts shall be placed at each panel outside quarter points. Each panel end stud shall have a tie-down device fastened to the foundation, capable of providing an approved uplift capacity of not less than 1,800 pounds (8006 N). The tie-down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation that is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom.

. . .

SECTION 54. Section 2308.9.3.2 is hereby amended to read as follows:

2308.9.3.2 Alternate bracing wall panel adjacent to a door or window opening.

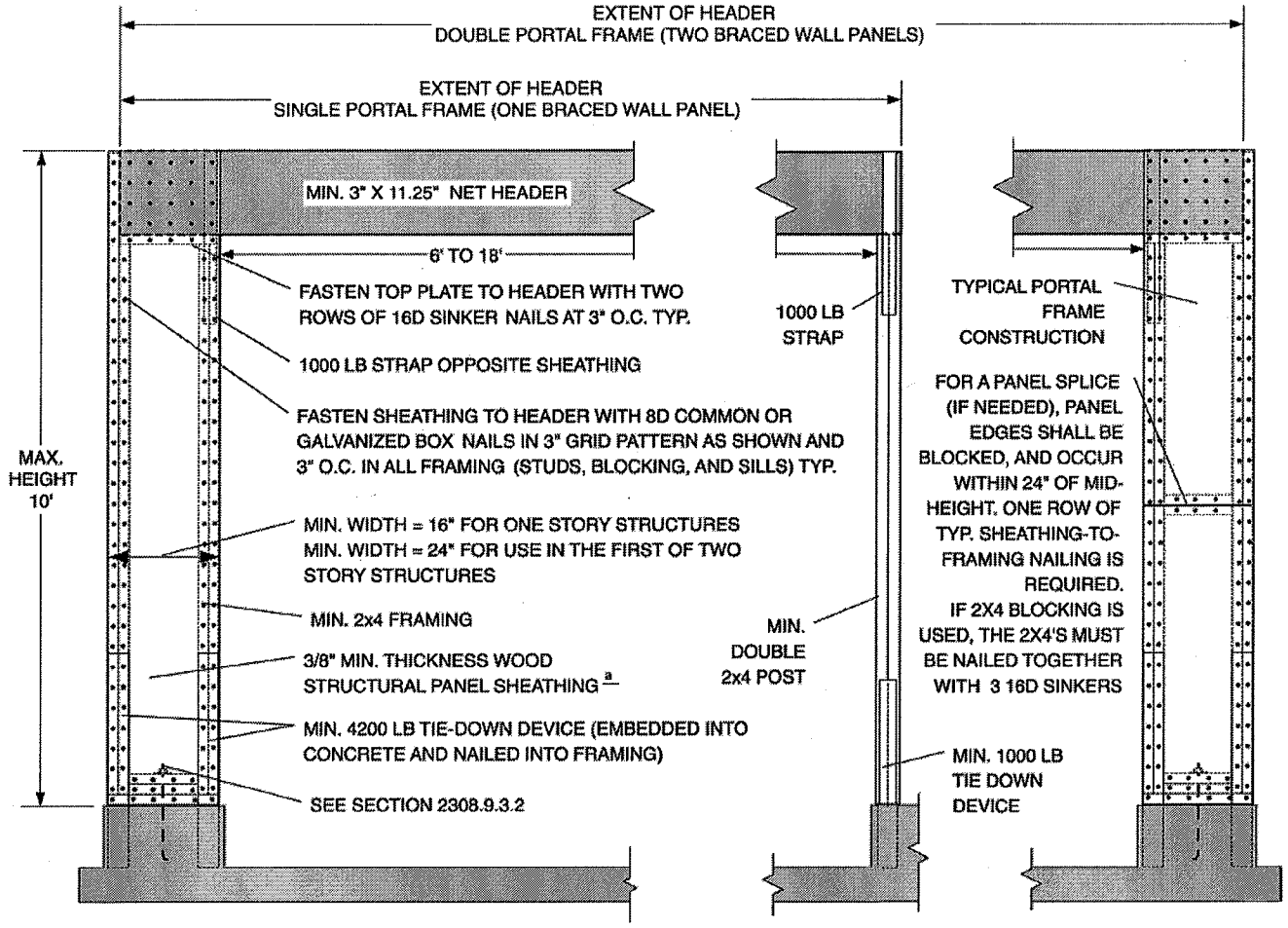
Any bracing required by Section 2308.9.3 is permitted to be replaced by the following when used adjacent to a door or window opening with a full-length header:

1. In one-story buildings, each panel shall have a length of not less than 16 inches (406 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be

sheathed on one face with a single layer of 3/8 inch (9.5 mm) minimum thickness wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure 2308.9.3.2. For structures assigned to Seismic Design Category D or E, each panel shall be sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing nailed with 8d common nails spaced 3 inches on panel edges, 3 inches at intermediate supports and in accordance with Figure 2308.9.3.2. The wood structural panel sheathing shall extend up over the solid sawn or glued-laminated header and shall be nailed in accordance with Figure 2308.9.3.2. A built-up header consisting of at least two 2 × 12s and fastened in accordance with Item 24 of Table 2304.9.1 shall be permitted to be used. A spacer, if used, shall be placed on the side of the built-up beam opposite the wood structural panel sheathing. The header shall extend between the inside faces of the first full-length outer studs of each panel. The clear span of the header between the inner studs of each panel shall be not less than 6 feet (1829 mm) and not more than 18 feet (5486 mm) in length. A strap with an uplift capacity of not less than 1,000 pounds (4,400 N) shall fasten the header to the inner studs opposite the sheathing. One anchor bolt not less than 5/8 inch (15.9 mm) diameter and installed in accordance with Section 2308.6 shall be provided in the center of each sill plate. The studs at each end of the panel shall have a tie-down device fastened to the foundation with an uplift capacity of not less than 4,200 pounds (18 480 N).

. . .

SECTION 55. Figure 2308.9.3.2 is hereby amended to read as follows:



For SI: 1 foot = 304.8 mm; 1 inch = 25.4 mm; 1 pound = 4.448 N.

a. For structures assigned to Seismic Design Category D or E, sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing.

FIGURE 2308.9.3.2
ALTERNATE BRACED WALL PANEL ADJACENT TO A DOOR OR WINDOW OPENING

SECTION 56. Table 2308.12.4 is hereby amended to read as follows:

TABLE 2308.12.4

WALL BRACING IN SEISMIC DESIGN CATEGORIES D AND E

(Minimum Length of Wall Bracing per each 25 Linear Feet of Braced Wall Line [a])

. . .

SECTION 56. Table 2308.12.4 is hereby amended to read as follows:

TABLE 2308.12.4

WALL BRACING IN SEISMIC DESIGN CATEGORIES D AND E

(Minimum Length of Wall Bracing per each 25 Linear Feet of Braced Wall Line [a])

. . .

a. Minimum length of panel bracing of one face of the wall for S-W sheathing shall be at least 4'-0" long or both faces of the wall for G-P sheathing shall be at least 8'-0" long; h/w ratio shall not exceed 2:1. For S-W panel bracing of the same material on two faces of the wall, the minimum length is permitted to be one-half the tabulated value but the h/w ratio shall not exceed 2:1 and design for uplift is required.

b. G-P = gypsum board, ~~fiberboard, particleboard, lath and~~portland cement, plaster, or gypsum sheathing boards; S-W = wood structural panels ~~and diagonal wood sheathing~~.

c. Nailing as specified below shall occur at all panel edges at studs, at top and bottom plates and, where occurring, at blocking:

For 1/2-inch gypsum board, 5d (0.113 inch diameter) cooler nails at 7 inches on center;

For 5/8-inch gypsum board, No 11 gage (0.120 inch diameter) cooler nails at 7 inches on center;

For gypsum sheathing board, 1-3/4 inches long by 7/16-inch head, diamond point galvanized nails at 4 inches on center;

For gypsum lath, No. 13 gage (0.092 inch) by 1-1/8 inches long, 19/64-inch head, plasterboard at 5 inches on center;

For Portland cement plaster, No. 11 gage (0.120 inch) by $1^1/_2$ inches long, $^7/_{16}$- inch head at 6 inches on center;

~~For fiberboard and particleboard, No. 11 gage (0.120 inch) by $1^1/_2$ inches long, $^7/_{16}$ inch head, galvanized nails at 3 inches on center.~~

d. S-W sheathing shall be a minimum of 15/32" thick nailed with 8d common nails placed 3/8 inches from panel edges and spaced not more than 6 inches on center and 12 inches on center along intermediate framing members.

SECTION 57. Section 2308.12.5 is hereby amended to read as follows:

2308.12.5 Attachment of sheathing.

Fastening of braced wall panel sheathing shall not be less than that prescribed in Table 2308.12.4 or 2304.9.1. Wall sheathing shall not be attached to framing members by adhesives. Staple fasteners in Table 2304.9.1 shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E, or F.

Exception: Staples may be used to resist or transfer seismic forces when the allowable shear values are substantiated by cyclic testing and approved by the Building Official.

All braced wall panels shall extend to the roof sheathing and shall be attached to parallel roof rafters or blocking above with framing clips (18 gauge minimum) spaced at maximum 24 inches (6096 mm) on center with four 8d nails per leg (total eight 8d nails per clip). Braced wall panels shall be laterally braced at each top corner and at

maximum 24 inch (6096 mm) intervals along the top plate of discontinuous vertical framing.

SECTION 58. Section 3401.10 is hereby added to read as follows:

3401.10 Parapets and appendages.

3401.10.1 General compliance.

Whenever the Building Official determines by inspection that, as a result of inadequate construction or bracing to resist horizontal forces, an existing parapet or appendage attached to and supported by an exterior wall of a building is likely to become a hazard to life or property in the event of earthquake disturbance, and such parapet or appendage is not an immediate hazard or danger as described in Section 102 of this Code, the Building Official may provide the owner of the building or other person or agent in control of the building where such parapet or other appendage exists, with a written notice specifying the hazards and the inadequacies of construction or bracing. The owner of the building or other person or agent in control of the building shall, within 12 months from the date of such written notice, eliminate the hazard as set forth below. Any person receiving notice as set out in this Section may appeal, in the manner provided by Section 102.4 of this Code, to the building Board of Appeals.

3401.10.2 Wall anchor.

The parapet or appendage shall be removed and the remainder of the wall anchored at the roof line, or it shall be reconstructed so that it will conform structurally as near as it is practicable to do so with requirements of Chapter 16 of this Code, or it shall be otherwise braced and strengthened in a manner satisfactory to the Building

Official, so that it will resist a reasonable degree of horizontal forces without becoming dislodged with danger of falling.

3401.10.3 Inspection of existing condition.

Where, in the opinion of the Building Official, it is necessary to open a portion of roof, wall, or ceiling of a building in order to determine the structural condition of any parapet or appendage, the Building Official may order the owner to make such opening and the owner shall comply with said order at the owner's sole cost and expense.

SECTION 59. Section 3401.11 is hereby added to read as follows:

3401.11 Existing glass.

Whenever the Building Official determines by inspection that an existing glass installation in rooms having an occupant load of more than 100 persons or a means of egress serving an occupant load of more than 100 persons, as determined by Chapter 10, is likely to become a hazard in the event of accidental human impact as described in Section 2406.4 and such installation does not comply with the provisions of this Code for glazing in such locations, the Building Official may provide the owner of the building or other person or agent in control of the building where such glazing exists with a written notice of such condition. The owner of the building or other person or agent in control of the building shall, within 90 days after receiving said notice, replace such glass or otherwise cause the installation to conform with the requirements of this Code.

SECTION 60. Section 6501 is hereby amended to read as follows:

SECTION 6501 DEFINITIONS

. . .

BUILDING LINE. For the purpose of this Chapter, a "property line" shall also mean a building line whose boundaries are established by a building line ordinance.

FACE OF BUILDING. ~~is t~~The general outer surface, not including cornices, bay windows or other ornamental trim, of any main exterior wall of a building.

GROUND SIGN. ~~is a~~A detached sign erected upon or supported by the ground.

PROJECTING SIGN. ~~is a~~A sign other than a wall sign suspended from or supported by a building or structure and projecting out therefrom.

ROOF SIGN. ~~is a~~A sign erected upon or above a roof or parapet wall of a building or structure.

SIGN. ~~is a~~A display board, screen, structure, object or part thereof, used to announce, declare, demonstrate, display or otherwise advertise and attract the attention of the public.

WALL SIGN. ~~is a~~A sign attached to or erected against the wall of a building or structure, with the exposed face of the sign in a plane approximately parallel to the plane of said wall.

SECTION 61. Section 6502.4 is hereby amended to read as follows:

6502.4 Design and Construction.

Sign frames and supporting construction shall be designed and constructed as ~~provided in the Structural Engineering Design Provisions~~ required by Chapters 16 through 23 of this Code.

. . .

SECTION 62. Section 6502.5 is hereby amended to read as follows:

6502.5 Projection and Clearance.

Signs extending beyond the exterior wall of the building shall comply with Section 705.2 and the following requirements.

. . .

SECTION 63. Section 6502.6 is hereby amended to read as follows:

6502.6 Materials.

Signs and their supports may be constructed of any material allowed in this Code, unless otherwise specified in this Chapter for the classification and location of sign to be erected.

Glass used in signs shall be of the size, thickness and type given in Table 65-1 of this Chapter and shall comply with the requirements of Chapter 24.

Exceptions:

1. Surfaces of signs not more than 55 feet (16764 mm) above grade may be of approved plastic material which has a flame-spread rating of 25 or less when tested in accordance with Standard 8-1, of the Uniform Building Code, 1997 Edition, as published by the International Conference of Building Officials, in the way intended for use.

2. Notwithstanding any other provisions of this Code, plastics which burn at a rate no faster than 2.5 inches per minute (64 mm/s) when tested in accordance with ASTM D 635 shall be deemed approved plastics and can be used as the display

surface material and for the letters, decorations and facing on signs and outdoor display structures.

SECTION 64. Section 6502.7 is hereby amended to read as follows:

6502.7 Prohibited Locations.

Signs shall not be erected, constructed or maintained so as to obstruct any fire escape or any window or door or opening used as part of the means of egress or as part of the accessible route, except as permitted by Chapters 10, 11A and 11B.

. . .

SECTION 65. Section 6504 is hereby amended to read as follows:

SECTION 6504 PROJECTING SIGNS

Projecting signs attached to a building shall be of noncombustible materials, or ~~of not less than one-hour fire resistive construction as specified in Chapter 7~~of any material complying with Sections 705.2.1 through 705.2.3. The thickness of any such sign shall not exceed the following:

. . .

SECTION 66. Section 6505 is hereby amended to read as follows:

SECTION 6505 WALL SIGNS

Wall signs ~~exceeding a height of 15 feet (4572 mm) above grade shall have a surface of noncombustible material, but may have ornamental moldings and lattice work of combustible material~~ attached to a building shall be of noncombustible materials or shall comply with Section 1406. No wall sign shall have a projection over any public street, other public property or building line, as defined herein, greater than 24 inches

(610 mm). No wall sign shall extend above the roof or highest parapet wall immediately adjacent thereto.

SECTION 67. Section 6506.3 is hereby amended to read as follows:

6506.3 Construction.

Roof signs shall be designed as required in Section 6502.4. They shall be of noncombustible material, except that wood moldings and 2-inch (51 mm)-thick plank walkways may be used.

. . .

SECTION 68. Section 6507.1 is hereby amended to read as follows:

6507.1 Marquee Signs.

Signs may be placed on, attached to or constructed ~~in a marquee and such signs shall, for the purpose of determining projection, clearance, height and material, be considered a part of and shall meet the requirements for a marquee. Projecting signs attached to a building may also be attached to a marquee.~~ on a marquee that meet the requirements for a marquee as described in Section 3106.

The marquee sign:

1. Shall not project beyond the perimeter of the marquee,
2. Shall not extend more than 6 feet above a marquee,
3. Shall not extend more than 1 foot below a marquee, and
4. Shall not have a vertical dimension greater than 8 feet.

SECTION 69. Section 6601.1 is hereby amended to read as follows:

6601.1 Structures Regulated.

The provisions of this Chapter are intended to regulate structures not otherwise regulated by this or other Codes, which affect or may affect the physical safety of human beings, and shall include the installation, maintenance and operations of public assembly tents, amusement devices, towers, membrane structures not regulated by Chapter 31, and other structures.

AMUSEMENT DEVICE OR STRUCTURE is any device or structure such as rebound tumbling equipment, merry-go-round, ~~ferris wheels,~~ captive air-planes, dark houses and similar devices or structures which the public is invited or permitted to ride or use for the purpose of amusement.

SECTION 70. Chapter 67 is hereby re-titled to read as follows:

CHAPTER 67

~~SPECIAL~~SECURITY PROVISIONS

SECTION 71. Section 6704 is hereby amended to read as follows:

SECTION 6704 ALTERNATE SECURITY PROVISIONS

The provisions of this Chapter are not intended to prevent the use of any device or method of construction not specifically prescribed by this Code when such alternate provides equivalent security based on a recommendation of the County Sheriff. Any alternate security provisions shall comply with Penal Code Section 14051.

SECTION 72. Section 6709 is hereby amended to read as follows:

SECTION 6709 DOORS—SWINGING DOORS

6709.1 Swinging Wooden Doors.

. . .

6709.1.1 Solid-core Doors.

. . .

6709.1.2 Wood Panel-type Doors.

. . .

6709.1.3 Hollow-core Doors.

. . .

6709.2 Single Swinging Door, Pair of Doors and Dutch Doors.

. . .

EXCEPTIONS:

. . .

4. In residential occupancies, doors not required by Section 1029 or 1008 may be equipped with security-type hardware which requires a key to release from the interior side of the door if the sleeping rooms are protected with a fire-warning system as set forth in Sections 907.2.11 and an automatic sprinkler system as required by Section 903.2.8.

6709.3 **Inactive Leaf of a Pair of Door or Upper Leaf of a Dutch Door.**

The inactive leaf of a pair of doors and the upper leaf of Dutch doors shall be equipped with a deadbolt or deadbolts as set forth in ~~Subs~~Section 6709.2

. . .

6709.4 **Door Stops.**

. . .

6709.5 **Nonremovable Pins.**

. . .

6709.6 **Cylinder Guards.**

. . .

SECTION 73. Section 6715 is hereby amended to read as follows:

SECTION 6715 **LIGHTS—LOCKING DEVICES**

6715.1 **Emergency Egress Windows.**

. . .

6715.2 **Sliding Glass Windows.**

. . .

6715.3 **Other Openable Windows.**

. . .

6715.4 **Special Types of Windows.**

. . .

SECTION 74. Section 6717 is hereby amended to read as follows:

SECTION 6717 HATCHWAYS, SCUTTLES AND SIMILAR OPENINGS

6717.1 Wooden Hatchways.

. . .

6717.2 Hatchways, Scuttles and Similar Openings.

The hatchway, scuttle and similar openings shall be secured from the inside with a slide bar, slide bolt, and/or padlock with a hardened steel shackle.

6717.3 Outside Pin-type Hinges.

. . .

6717.4 Other Types of Openings.

. . .

SECTION 75. Section 6902 is hereby amended to read as follows:

SECTION 6902 WHERE ALLOWED WITHOUT PERMITS

This Chapter shall not apply to trailer coaches:

1. When the provisions of Part 2 or Part 2.1, Division 13 of the Health and Safety Code, State of California apply.

. . .

SECTION 76. Section 6903 is hereby amended to read as follows:

SECTION 6903 PERMIT REQUIRED

A trailer coach shall not be used, maintained or occupied contrary to the provisions of this Chapter and the applicable State laws and regulations. Before using a trailer coach for living or sleeping purposes a person shall ~~first~~ obtain a permit to do so

from the Building Official. If the time during which a trailer coach may be so used is limited by the provisions of Title 22 ~~-of the Los Angeles County~~ Planning and Zoning of the Los Angeles County Code, ~~the Planning and Zoning Code~~, then the permit hereunder shall also be so limited. Otherwise the permit is valid until revoked.

SECTION 77. Section 9402.1 is hereby amended to read as follows:

9402.1 Scope.

The provisions of this Chapter shall apply to all welded steel moment frame buildings constructed, under construction, or for which a building permit was issued prior to July 1, 1999, the effective date of ~~this o~~Ordinance 99-0040, which are:

. . .

SECTION 78. Section 9404.2 is hereby amended to read as follows:

9404.2 Contents of Order.

The Inspection and Repair Compliance Order shall be in writing and shall be served either personally or by registered mail, postage prepaid, upon the owner of the building as shown on the last equalized assessment. In the event that contact is not made with the owner after a diligent effort by the building official, as a last resort, the Inspection and Repair Compliance Order shall be served by posting on the building. The order shall specify that the building appears to be a welded steel moment frame building within the scope of ~~part~~item 1 or 2 of Section 9402.1 or the geographical areas as set forth in Section 9402.2 and, therefore, is required to meet the minimum structural standards and time limits of Section 9405 and Table 94-A of this Chapter. The order shall also specify the time limits for appeal of and compliance with the order.

SECTION 79. Table 94-A is hereby amended to read as follows:

. . .

[1] All dates are measured from the date the inspection and repair compliance order is served pursuant to Section 9404.

[2] For any work required by this Chapter, the time limits shown herein shall supersede the time limits specified in Section 106.5.4.

[3] These time limits may be extended by 12 months at the discretion of the Building Official provided the owner has demonstrated a good faith effort to meet the requirements of this Chapter. A maximum of two such extensions may be granted.

SECTION 80. Section 9501 is hereby amended to read as follows:

. . .

This Chapter sets forth minimum standards for structural seismic resistance to reduce the risk of loss of life and injury by the installation of wall anchors and connections to the horizontal diaphragms. Compliance with these standards will not necessarily prevent loss of life or injury, or prevent earthquake damage to rehabilitated buildings. This Chapter does not require existing electrical, plumbing, mechanical or ~~firesafety~~ fire protection systems to be altered.

SECTION 81. Section 9503 is hereby amended to read as follows:

SECTION 9503 DEFINITIONS.

. . .

ESSENTIAL FACILITIES is defined as any building conforming to the definition of essential facilities as set forth in ~~Section 1602.1 of this Code~~Chapter 2.

. . .

SECTION 82. Section 9506.2 is hereby amended to read as follows:

9506.2 Special Requirements for Wall Anchors and Continuity Ties.

. . .

The strength design specified in Section ~~1912~~1909, using a load factor of 2.0 in lieu of 1.4 for earthquake loading, shall be used for design of embedments in concrete.

. . .

SECTION 83. Section 9506.10 is hereby amended to read as follows:

9506.10 Diaphragms.

Diaphragms supporting concrete walls shall have continuous ties or struts between diaphragm chords to distribute the anchorage forces specified in Section 12.11 of ASCE 7-10. The spacing of continuous ties shall not exceed 25 feet (7620 mm). Added chords of subdiaphragms may be used to form subdiaphragms to transmit the anchorage forces to the main continuous crossties. The maximum diaphragm shear used to determine the depth of the subdiaphragms shall not exceed 300 pounds per foot (4.38 kN/m). The maximum length-to-width ratio of the wood structural subdiaphragm shall be 2 ½:1.

SECTION 84. Table 95-A is hereby amended to read as follows:

. . .

[1] All dates are measured from the date the Earthquake Hazard Reduction Compliance Order is served pursuant to Section 9504.

[2] For any work required by this Chapter, the time limits shown herein shall supersede the time limits specified in Section 106.5.4.

SECTION 85. Chapter 96 is hereby amended to read as follows:

CHAPTER 96

EARTHQUAKE HAZARD REDUCTION FOR EXISTING UNREINFORCED MASONRY BEARING WALL BUILDINGS

SECTION 9601 PURPOSE

. . .

SECTION 9602 SCOPE

. . .

SECTION 9603 DEFINITIONS

For purposes of this Chapter, the applicable definitions contained in this Code, Appendix Chapter A1 of Part 10, Title 24 of the California Code of Regulations, and the following definitions shall apply:

. . .

SECTION 9604 RATING CLASSIFICATIONS

. . .

SECTION 9605 GENERAL REQUIREMENTS

. . .

SECTION 9606 ADMINISTRATION

. . .

SECTION 9607 HISTORICAL BUILDINGS

. . .

9607.2.1 Dimensions.

. . .

9607.2.2 Foundation.

. . .

9607.2.3 Compressive Strength of Brick and Adobe Brick Masonry.

. . .

9607.2.4 Mortar.

. . .

9607.2.5 Tension Stresses.

. . .

9607.3 Archaic ~~m~~Materials.

. . .

9607.4 Alternative ~~m~~Materials and ~~s~~State ~~h~~Historical ~~b~~Building ~~c~~Code ~~a~~Advisory ~~r~~Review.

Alternative materials, design, or methods of construction will be considered as set forth in Section 104.2.8. In addition, when a request for an alternative proposed design, material, or method of construction is being considered, the Building Official may file a written request for an opinion to the State Historical Building Code Advisory Board for its consideration, advice or findings in accordance with the State Historical Building Code (Part 8, Title 24 of the California Code of Regulations).

SECTION 9608 INFORMATION REQUIRED ON PLANS

. . .

9608.2 Construction ~~d~~Details.

9608.2.1 Anchorage at Roof and Floor Levels.

. . .

9608.2.2 Diaphragm Chord.

. . .

9608.2.3 Trusses and Beams.

. . .

9608.2.4 Parapets and Exterior Walls.

. . .

9608.2.5 Mortar Joints.

. . .

9608.2.6 Repair Details.

. . .

9608.3 Existing Construction.

. . .

3. The extent and type of parapet corrections which were ~~preformed~~performed in accordance with Chapter 34 of this Code.

. . .

SECTION 9609 INTERPRETATION OF THIS CHAPTER

. . .

SECTION 86. Table 96-B is hereby amended to read as follows:

. . .

[1] Measured from the date of service of the order.

[2] Measured from the date of building permit issuance.

SECTION 87. Section 9814 is hereby amended to read as follows:

9814 EMERGENCY PROCEDURES

Whenever ~~either~~ the Los Angeles County District Attorney, Sheriff or the Chief of the Fire Department determines that the conditions described in Section 9803.1 or 9803.2 constitute such an immediate hazard that access to the building, structure, or Special Hazard must be sufficiently removed, secured, closed, covered, fenced, backfilled, or provided with some equivalent protection forthwith or within less than the designated period and the Los Angeles County District Attorney, Sheriff or the Chief of the Fire Department so notifies the Building Official, then the Building Official shall limit access to such building, structure, or Special Hazard through the Director of the Internal Services Department (as provided in Section 9811.1) or Road Maintenance Division (as provided in Section 9811.2) or by contract, or otherwise, after giving such notice to the record owner or the person in charge, or both as the circumstances will permit or without any notice whatever when, in the opinion of the Los Angeles County District Attorney, Sheriff or Chief of the Fire Department, immediate action is necessary.

The provisions of this Chapter providing for hearings shall apply to any person having any right, title, or interest in any building secured pursuant to this Section. Such person may request a hearing as to the necessity and reasonable cost of the work

performed pursuant to Section 9814 within 10 days after the building is secured or within 10 days after receiving notice of such work.

SECTION 88 Section 9902 is hereby amended to read as follows:

SECTION 9902 DEFINITIONS

. . .

~~**9902.3 COMPLETION.** Where a building is found to be substandard due to having been under construction for an unreasonable time, as defined in Section 9903.2, the terms demolition, improvement, removal, repair or rehabilitation," as used in this Chapter shall include "completion."~~

9902.4<u>3</u>

. . .

9902.~~5~~<u>4</u> PARTY CONCERNED.

9902.~~6~~<u>5</u> VEHICLE—DEFINED.

. . .

9902.~~7~~<u>6</u> PUBLIC NUISANCE

. . .

SECTION 89. Section 9905.15 is hereby deleted as follows:

~~**9905.15** Grading which does not meet the minimum standards set forth in Appendix J of this Code or which is done in violation of this Code or any other County or State law regulating grading.~~

SECTION 90. Section J101 is hereby amended to read as follows:

J101 GENERAL

J101.1 Scope.

The provisions of this ~~c~~Chapter apply to grading, excavation, and earthwork construction, including fills and embankments and the control of runoff from graded sites, including erosion sediments and construction-related pollutants. ~~Where conflicts occur between the technical requirements of this chapter and the geotechnical report, the geotechnical report shall govern~~. The purpose of this Chapter is to safeguard life, limb, property, and the public welfare by regulating grading on private property.

J101.2 Flood hazard areas.

The provisions of this ~~c~~Chapter shall not apply to grading, excavation, and earthwork construction, including fills and embankments, in floodways designated in Chapter 11.60 of Title 11 – Health and Safety of the Los Angeles County Code or in floodways within flood hazard areas established in Section 1612.3 or in flood hazard areas where design flood elevations are specified but floodways have not been designated, unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed work will not result in any increase in the level of the base flood.

J101.3 General hazards.

Whenever the Building Official determines that any existing excavation, embankment, or fill on private property has become a hazard to life and limb, or endangers property, or adversely affects the safety, use, or stability of a public way or drainage channel, the Building Official may give written notice thereof to the owner of the property upon which the excavation, embankment, or fill is located, or other person

or agent in control of said property. Upon receipt of said notice, the owner or other person or agent in control of the property shall repair or eliminate such excavation, embankment, or fill so as to eliminate the hazard, in conformance with the requirements of this Code, within the period specified in said notice.

J101.4 Safety precautions.

If at any stage of the work the Building Official determines by inspection that further grading as authorized is likely to endanger any public or private property or result in the deposition of debris on any public way or interfere with any existing drainage course, the Building Official may order the work stopped by notice in writing served on any persons engaged in doing or causing such work to be done, and any such person shall immediately stop such work. The Building Official may authorize the work to proceed if the Building Official finds adequate safety precautions can be taken or corrective measures incorporated in the work to avoid likelihood of such danger, deposition, or interference.

If the grading work as done has created or resulted in a hazardous condition, the Building Official shall give written notice requiring correction thereof as specified in Section J101 of this Code.

J101.5 Protection of utilities.

Both the permittee and the owner of the property on which the grading is performed shall be responsible for the prevention of damage to any public and/or private utilities or services.

J101.6 Protection of adjacent property.

Both the permittee and owner of the property on which the grading is performed shall be responsible for the prevention of damage to adjacent property. No person shall excavate on land sufficiently close to the property line to endanger any adjoining public street, sidewalk, alley, or other public or private property without taking adequate measures to support and protect such property from settling, cracking, or other damage that might result from the proposed work. Any person performing any grading that involves imported or exported materials shall take special precautions, as approved by the Building Official, to prevent such materials from being deposited on adjacent properties, any public way, and/or any drainage course.

J101.7 Storm water control measures.

Both the permittee and the owner of the property on which the grading is performed shall put into effect and maintain all precautionary measures necessary to protect adjacent water courses and public or private property from damage by erosion, flooding, and deposition of mud, debris, and construction-related pollutants originating from the site during grading and related construction activities.

J101.8 Maintenance of protective devices and rodent control.

All drainage structures and other protective devices and all burrowing rodent control measures, as shown on the grading plans approved by the Building Official, shall be maintained in a good condition and, when necessary, promptly repaired by the permittee or the owner of the property on which grading has been performed or by any other person or agent in control of such property.

J101.9 Correlation with other sections.

The provisions of this Chapter are independent of the provisions of Chapter 99 of this Code relating to building and property rehabilitation. This Section may be applied even though the same facts have been used to determine that there is substandard property subject to the provisions of Chapter 99.

J101.10 Conditions of approval.

In granting any permit under this Code, the Building Official may include such conditions as may be reasonably necessary to prevent creation of a nuisance or hazard to public or private property. Such conditions may include, but shall not be limited to:

1. Improvement of any existing grading to comply with the standards of this Code.

2. Requirements for fencing of excavations or fills which would otherwise be hazardous.

SECTION 91. Section J102.1 is hereby amended to read as follows:

J102.1 Definitions.

~~The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of the *California Building* Code for general definitions.~~ For the purposes of this Appendix Chapter, the terms, phrases, and words listed in this Section and their derivatives shall have the indicated meanings.

APPROVAL. When the proposed work or completed work conforms to this Chapter, as determined by and to the satisfaction of the Building Official.

AS-BUILT. See Section J105.12.

BEDROCK. The relatively solid, undisturbed rock in place either at the ground surface or beneath superficial deposits of alluvium, colluvium and/or soil.

BENCH. A relatively level step excavated into earth material on which fill is to be placed.

BEST MANAGEMENT PRACTICE (BMP). Practices, prohibitions of practices, or other activities to reduce or eliminate the discharge of pollutants to surface waters. BMPs include structural and nonstructural controls, management practices, operation and maintenance procedures, and system, design, and engineering methods that are required to be employed in order to comply with the requirements of the National Pollution Discharge Elimination System (NPDES) permit issued to the County of Los Angeles (see Section 106.4.3 and Title 31 - Green Building Standards Code of the Los Angeles County Code).

BORROW. Earth material acquired from an off-site location for use in grading on a site.

CIVIL ENGINEER. A professional engineer registered in the State of California to practice in the field of civil works.

CIVIL ENGINEERING. The application of the knowledge of the forces of nature, principles of mechanics, and the properties of materials to the evaluation, design, and construction of civil works.

COMPACTION. The densification of a fill by mechanical means.

CUT. See "Excavation."

DESILTING BASINS. Physical structures, constructed for the removal of sediments from surface water runoff.

DESIGN ENGINEER. The Civil Engineer responsible for the preparation of the grading plans for the site grading work.

DOWN DRAIN. A device for collecting water from a swale or ditch located on or above a slope, and safely delivering it to an approved drainage facility.

EARTH MATERIAL. Any rock, natural soil, or fill or any combination thereof.

ENGINEERING GEOLOGIST. A geologist experienced and knowledgeable in engineering geology, holding a valid certificate of registration as a geologist in the specialty of engineering geology issued by the State of California under the applicable provisions of the Geologist and Geophysicist Act of the Business and Professions Code.

ENGINEERING GEOLOGY. The application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

EROSION. The wearing away of the ground surface as a result of the movement of wind, water, or ice.

EXCAVATION. The removal of earth material by artificial means, also referred to as a cut.

FIELD ENGINEER. The Civil Engineer responsible for performing the functions as set forth in Section J105.3.

FILL. Deposition of earth materials by artificial means.

GEOTECHNICAL ENGINEER. See "Soils Engineer".

GEOTECHNICAL HAZARD. An adverse condition due to landslide, settlement, and/or slippage. These hazards include, but are not limited to, loose debris, slopewash, and mud flows from natural or graded slopes.

GRADE. The vertical location of the ground surface.

GRADE, EXISTING. The grade prior to grading.

GRADE, FINAL. See Section J105.7.

GRADE, FINISHED. The grade of the site at the conclusion of all grading efforts.

GRADE, INITIAL. See Section J105.7.

GRADE, ROUGH. See Section J105.7.

GRADING. An excavation or fill or combination thereof.

KEY. A compacted fill placed in a trench excavated in earth material beneath the toe of a slope.

LANDSCAPE ARCHITECT. A person who holds a certificate to practice landscape architecture in the State of California under the applicable landscape architecture provisions of Division 3, Chapter 3.5 of the Business and Professions Code.

LINE. The horizontal location of the ground surface.

PERMITTEE. See Section J105.6.

PRIVATE SEWAGE DISPOSAL SYSTEM. A septic tank with effluent discharging into a subsurface disposal field, into one or more seepage pits or into a combination of subsurface disposal field and seepage pit or of such other facilities as may be permitted in accordance with the procedures and requirements set forth in

Title 28 - Plumbing Code of the Los Angeles County Code and as required by the Los Angeles County Department of Public Health.

PROJECT CONSULTANTS. The professional consultants required by this Code which may consist of the Design Engineer, Field Engineer, Soils Engineer, Engineering Geologist, and Landscape Architect as applicable to this Chapter.

PROFESSIONAL INSPECTION. The inspection required by this Code to be performed by the Project Consultants. Such inspections shall be sufficient to form an opinion relating to the conduct of the work.

QSD. Qualified SWPPP Developer as defined in the California State Construction General Permit.

QSP. Qualified SWPPP Practitioner as defined in the California State Construction General Permit.

SITE. A lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

SLOPE. An inclined surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

SOIL. Naturally occurring superficial deposits overlying parent bedrock.

SOILS ENGINEER (GEOTECHNICAL ENGINEER). A civil engineer experienced and knowledgeable in the practice of soils engineering.

SOILS ENGINEERING (GEOTECHNICAL ENGINEERING). The application of the principals of soils mechanics in the investigation, evaluation, and design of civil

works involving the use of earth materials and the inspection or testing of construction thereof.

STORM DRAIN SYSTEM. A conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, and man-made channels, designed or used for collecting and conveying storm water.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP). A site drawing with details, notes, and related documents that identify the measures proposed by the permittee to: (1) control erosion and prevent sediment and construction-related pollutants from being carried offsite by storm water, and (2) prevent non-storm water discharges from entering the storm drain system.

SURFACE DRAINAGE. Flows over the ground surface.

SOIL TESTING AGENCY. An agency regularly engaged in the testing of soils and rock under the direction of a Civil Engineer experienced in soil testing.

TERRACE. A relatively level step constructed in the face of a graded slope for drainage and maintenance purposes.

SECTION 92. Section J103 is hereby amended to read as follows:

SECTION J103 PERMITS REQUIRED

J103.1 Permits required.

Except as exempted in Section J103.2, no grading shall be performed without first having obtained a permit ~~therefor~~ from the ~~b~~Building ~~o~~Official. A grading permit does not include the construction of retaining walls or other structures. A separate permit shall be obtained for each site and may cover both excavations and fills. Any

engineered grading as described in Section J104.2.3 shall be performed by a contractor licensed by the State of California to perform the work described hereon. Regular Grading less than 5,000 cubic yards may require a licensed contractor if the Building Official determines that special conditions or hazards exist.

J103.2 Exemptions.

A grading permit shall not be required for the following:

1. When approved by the Building Official, ~~G~~grading in an isolated, self-contained area, provided there is no danger to the public, and that such grading will not adversely affect adjoining properties or public rights of way.

. . .

7. Exploratory excavations performed under the direction of a ~~registered design professional~~Geotechnical Engineer or Engineering Geologist. This shall not exempt grading of access roads or pads created for exploratory excavations. Exploratory excavations must not create a hazardous condition to adjacent properties or the public in accordance with Section J101.3. A restoration plan must be provided and approved by the Building Official for all grading of access roads or pads. Restoration shall be completed within 90 days after the completion of soils testing unless otherwise approved by the Building Official.

8. An excavation that does not exceed 50 cubic yards (38.3 m^3) and complies with one of the following conditions and as shown in Figure J103.2:

(a) Is less than 2 feet (0.6 m) in depth.

(b) Does not create a cut slope greater than 5 feet (1.5 m) measured vertically upward from the cut surface to the surface of the natural grade and is not steeper than 2 units horizontal to 1 unit vertical (50 percent slope).

9. A fill not intended to support a structure that does not obstruct a drainage course and complies with one of the following conditions and as shown in Figure J103.2:

(a) Is less than 1 foot (0.3 m) in depth and is placed on natural terrain with a slope flatter than 5 units horizontal to 1 unit vertical (20 percent slope).

(b) Is less than 3 feet (0.9 m) in depth at its deepest point measured vertically upward from natural grade to the surface of the fill, does not exceed 50 cubic yards, and creates a fill slope no steeper than 2 units horizontal to 1 unit vertical (50 percent slope).

(c) Is less than 5 feet (1.5 m) in depth at its deepest point measured vertically upward from natural grade to the surface of the fill, does not exceed 20 cubic yards, and creates a fill slope no steeper than 2 units horizontal to 1 unit vertical (50 percent slope).

Exemption from the permit requirements of this ~~a~~Appendix Chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this ~~c~~Code or any other laws or ordinances of this jurisdiction.

J103.3 Unpermitted grading.

A person shall not own, use, occupy, or maintain any site containing unpermitted grading. For the purposes of this Code, unpermitted grading shall be defined as either

of the following: (1) Grading that was performed, at any point in time, without the required permit(s) having first been obtained from the Building Official, pursuant to Section J103.1; or (2) Grading for which a permit was obtained pursuant to this Section, but which was not completed, pursuant to Section J105, prior to the expiration of the permit, pursuant to Section 106.5.4.

J103.4 Availability of permit at site.

No person shall perform any grading that requires a permit under this Chapter unless a copy of the grading permit and approved grading plans are in the possession of a responsible person and available at the site for the Building Official's reference.

J103.5 Grading fees.

Fees shall be assessed in accordance with the provisions of this Section. The amount of the fees shall be as specified in Section 107 of this Code.

1. Plan Review Fees. When a plan or other data are required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Separate plan review fees shall apply to retaining walls or major drainage structures as required elsewhere in this Code. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater.

2. Permit Fees. A fee for each grading permit shall be paid to the Building Official at the time of issuance of the permit. Separate permits and fees shall apply to retaining walls or major drainage structures as required elsewhere in this Code.

3. Site Inspection Fee. When the Building Official finds that a visual inspection of the site is necessary to establish drainage requirements for the protection of property, existing buildings, or the proposed construction, a site inspection shall be made during plan check of grading plans. A fee for such inspection shall be paid to the Building Official at the time of submitting plans and specifications for review.

J103.6 Compliance with zoning code.

The Building Official may refuse to issue a grading permit for work on a site if either the proposed grading or the proposed land use for the site shown on the grading plan application does not comply with the provisions of Title 22 – Planning and Zoning of the Los Angeles County Code.

J103.7 Grading security.

J103.7.1 Scope and purpose.

The Building Official may require a permittee or the owner(s) of the property on which the grading is proposed to occur to provide security, as a condition of the issuance of a grading permit for any grading involving more than 1,000 cubic yards (764.6 m^3). Where unusual conditions or special hazards exist, the Building Official may require security for grading involving less than 1,000 cubic yards (764.6 m^3). The purpose of the security shall be to guarantee the permittee's obligation to mitigate any hazardous conditions, including flood and geotechnical hazards, that may be created if the grading is not completed in accordance with the approved plans and specifications, and to complete any work that the Building Official determines is necessary to bring the property into compliance with this Chapter.

Security required by this Section may include incidental off-site grading on property contiguous with the site to be developed, provided written consent of the owner of such contiguous property is filed with the Building Official.

The Building Official may waive the requirements for a security for the following:

1. Grading being done by or for a governmental agency.

2. Grading necessary to remove a geotechnical hazard, where such work is covered by an agreement and security posted pursuant to the provisions of Title 21 – Subdivisions of the Los Angeles County Code.

3. Grading on a site, not exceeding a slope of three horizontal to one vertical, provided such grading as determined by the Building Official will not affect drainage from or to adjacent properties.

4. Filling of holes or depressions, provided such grading will not affect the drainage from or to adjacent properties.

J103.7.2 Form of security.

The security referred to in Section J103.7.1 shall be in one of the following forms:

1. A bond furnished by a corporate surety authorized to do business in this state.

2. Cash.

3. Savings and loan certificates or shares deposited and assigned to the County as provided in Chapter 4.36 of Title 4 – Revenue and Finance of the Los Angeles County Code.

4. An instrument of credit from a financial institution subject to regulation by the state or federal government and pledging that funds in the amount required by the Building Official are on deposit and guaranteed for payment, or a letter of credit issued by such a financial institution.

J103.7.3 Amount of security.

The amount of security shall be based on the number of cubic yards of material in either excavation or fill, whichever is greater, and the cost of all drainage or other protective devices or work necessary to eliminate potential flooding and geotechnical hazards. That portion of the security valuation based on the volume of material in either excavation or fill shall be computed as follows:

100,000 cubic yards or less - 50 percent of the estimated cost of grading work.

Over 100,000 cubic yards - 50 percent of the cost of the first 100,000 cubic yards plus 25 percent of the estimated cost of that portion in excess of 100,000 cubic yards.

When the rough grading has been completed in conformance with the requirements of this Code, the Building Official may, at his or her discretion, consent to a proportionate reduction of the security to an amount estimated to be adequate to ensure completion of the grading work, site development or planting remaining to be performed. The costs referred to in this Section shall be as estimated by the Building Official.

J103.7.4 Conditions.

All security shall include the conditions that the principal shall:

1. Comply with all of the provisions of this Code, applicable laws, and ordinances;

2. Comply with all of the terms and conditions of the grading permit; and

3. Complete all of the work authorized by the permit.

J103.7.5 Term of security.

The term of each security s-hall begin upon the filing with the Building Official and the security shall remain in effect until the work authorized by the grading permit is completed and approved by the Building Official.

J103.7.6 Default procedures.

In the event any grading for which a permit has been issued is not completed in accordance with the approved plans and specifications for said work or with all terms and conditions of the grading permit, the Building Official may declare that a default has occurred. The Building Official shall give notice thereof to the principal and surety or financial institution executing the security, or to the owner in the case of a cash bond or assignment.

The Building Official may thereafter determine the work that is necessary to mitigate any hazardous or unsafe conditions on the site and cause such work to be performed.

Where the security consists of a bond or instrument of credit, the surety or financial institution executing the security shall be responsible for the payment of all costs and expenses incurred by the Building Official in causing such work to be performed, up to the full amount of the security. In the case of cash security or

assignment, the Building Official may pay all costs and expenses incurred in causing such work to be performed from the funds deposited, and return any unused portion of such deposit or funds to the person making said deposit or assignment.

J103.7.7 Right of entry.

The Building Official or the authorized representative of any surety company or financial institution furnishing a security shall have access to the premises described in the permit for the purpose of inspecting the work.

In the event of default, as described in Section J103.7.6, the surety or financial institution furnishing the security or the Building Official, or any person employed or engaged on the behalf of any of these parties, shall have the right to go upon the premises to perform the mitigation work, as described in Section J103.7.6.

Neither the permittee, owner, or any other person shall interfere with or obstruct the ingress into or egress from any such premises, of any authorized representative of the surety or financial institution executing the security or the Building Official engaged to perform the mitigation work, as described in Section J103.7.6.

SECTION 93. Figure J103.2 is hereby added to read as follows:

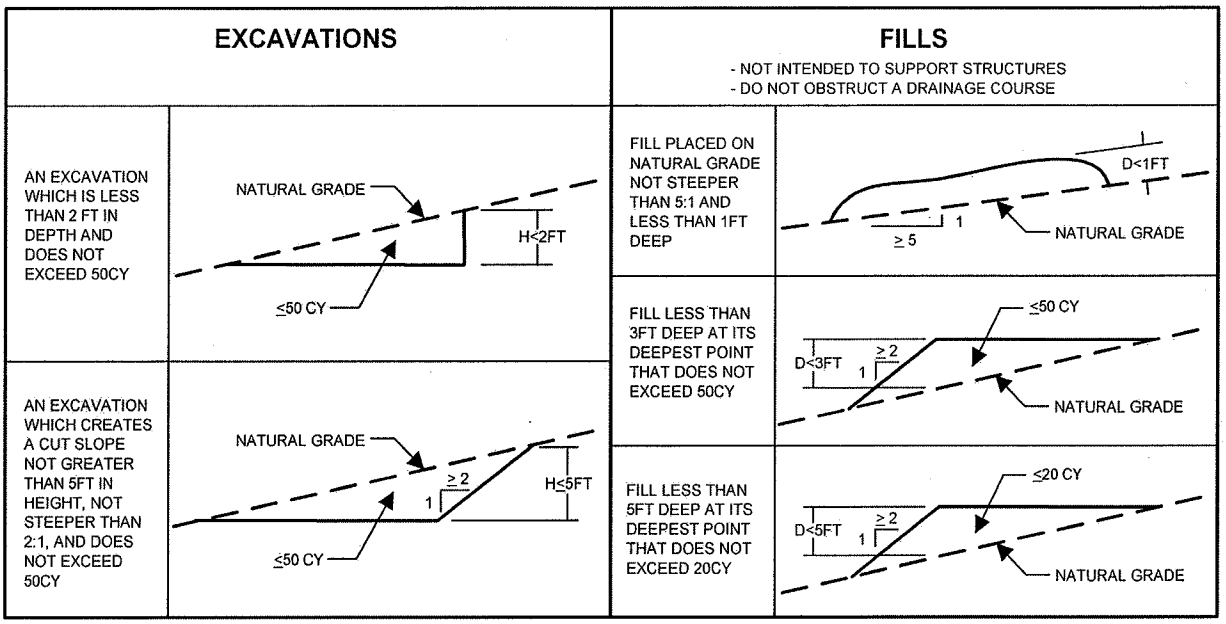


FIGURE J103.2

GRADING EXEMPTION CASES

SECTION 94. Section J104 is hereby amended to read as follows:

SECTION J104 PERMIT APPLICATION AND SUBMITTALS

J104.1 Submittal requirements.

In addition to the provisions of Section ~~105.3~~106.4, the applicant shall state the ~~estimated quantities of excavation and fill~~following:

1. The estimated quantities of excavation, fill, borrow, removal or combination thereof.

2. The proposed land use for the site on which the grading is to be performed.

J104.2 Site plan requirements.

In addition to the provisions of Section ~~107~~106, a grading plan shall show the existing grade and finished grade in contour intervals of sufficient clarity to indicate the nature and extent of the work and show in detail that it complies with the requirements of this ~~c~~Code. The plans shall show the existing grade on adjoining properties in sufficient detail to identify how grade changes will conform to the requirements of this ~~c~~Code.

J104.2.1 Grading designation.

Grading in excess of 5,000 cubic yards (3,825 m^3) or that is proposed to support any structure shall be designated as "engineered grading." All engineered grading shall be performed in accordance with an approved grading plan and specifications prepared by a Civil Engineer, unless otherwise required by the Building Official.

Grading involving less than 5,000 cubic yards (3,825 m^3) and that will not support any structure shall be designated "regular grading" unless the permittee chooses to have the grading be designated as engineered grading, or the Building Official determines that, due to the existence of special conditions or unusual hazards, the grading should be designated as engineered grading.

J104.2.2 Regular grading requirements.

In addition to the provisions of Section 106, and Section J104.2, an application for a regular grading permit shall be accompanied by two sets of plans in sufficient clarity to indicate the nature and extent of the work. The plans shall give the location of the work, the name of the owner, and the name of the person who prepared the plan.

The plan shall include the following information:

1. General vicinity of the proposed site.

2. Limits and depths of cut and fill.

3. Location of any buildings or structures where work is to be performed, and the location of any buildings or structures within 15 feet (4.6 m) of the proposed grading.

4. Contours, flow areas, elevations, or slopes which define existing and proposed drainage patterns.

5. Storm water mitigation measures in accordance with the requirements of Section 106.4.3 of this Code. See Section J110.8 for specific requirements.

6. Location of existing and proposed utilities, drainage facilities, and recorded public and private easements and restricted use areas.

7. Location of all recorded floodways as established by Chapter 11.60 of Title 11 – Health and Safety of the Los Angeles County Code.

8. Location of all Special Flood Hazard Areas as designated and defined in Title 44 of the Code of Federal Regulations.

J104.2.3 Engineered grading requirements.

In addition to the provisions of Section 106 and Section J104.2, an application for a permit for engineered grading shall be accompanied by four sets of plans and specifications, and supporting data consisting of a geotechnical report and engineering geology report.

Specifications shall contain information covering construction and material requirements. Plans shall be drawn to scale on paper and shall be of sufficient clarity to

indicate the nature and extent of the work proposed and shall show in detail that the proposed work will conform to the provisions of this Code and all relevant laws, ordinances, rules, and regulations. The first sheet of each set of plans shall depict the location of the proposed work, the name and address of the owner, and the person by whom they were prepared.

The plans shall include or be accompanied by the following information:

1. General vicinity of the proposed site.

2. Property limits and accurate contours of existing ground and details of terrain and area drainage.

3. Limiting dimensions, elevations, or finish contours to be achieved by the grading, proposed drainage channels, and related construction.

4. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices to be constructed with, or as a part of, the proposed work. A map showing the drainage area and the estimated runoff of the area served by any drains shall also be provided.

5. Location of any existing or proposed buildings or structures located on the property on which the work is to be performed and the location of any buildings or structures on adjacent properties that are within 15 feet (4.6 m) of the property or that may be affected by the proposed grading operations.

6. Recommendations in the geotechnical report and the engineering geology report shall be incorporated into the grading plans or specifications. When approved by

the Building Official, specific recommendations contained in the soils engineering report and the engineering geology report, that are applicable to grading, may be included by reference.

7. The dates of the geotechnical and engineering geology reports together with the names, addresses, and phone numbers of the firms or individuals who prepared the reports.

8. A statement of the quantities of material to be excavated and/or filled. Earth work quantities shall include quantities for geotechnical and geological remediation. In addition, a statement of the quantities of material to be imported or exported from the site.

9. A statement of the estimated starting and completion dates for proposed work.

10. A statement signed by the owner, acknowledging that a Field Engineer, Geotechnical Engineer, and Engineering Geologist, when appropriate, will be employed to perform the services required by this Code, when the Building Official requires that such professional persons be so employed. These acknowledgments shall be on a form furnished by the Building Official.

11. Storm water mitigation measures are required to be shown on the grading plan in accordance with the requirement of Section 106.4.3 of this Code. See Section J1110.8 for specific requirements.

12. A drainage plan for those portions of property proposed to be utilized as a building site (building pad), including elevations of floors with respect to finish site grade and locations of proposed stoops, slabs, and fences that may affect drainage.

13. Location and type of any proposed private sewage disposal system, including the location of the expansion area.

14. Location of existing and proposed utilities, drainage facilities, and recorded public and private easements and restricted use areas.

15. Location of all recorded floodways as established by Chapter 11.60 of Title 11 – Health and Safety of the Los Angeles County Code.

16. Location of all Special Flood Hazard Areas as designated and defined in Title 44 of the Code of Federal Regulations.

J104.3 Geotechnical and engineering geology reports.

~~A geotechnical report prepared by registered design professionals shall be provided. The report shall contain at least the following:~~

~~1. The nature and distribution of existing soils;~~

~~2. Conclusions and recommendations for grading procedures;~~

~~3. Soil design criteria for any structures or embankments required to accomplish the proposed grading; and~~

~~4. Where necessary, slope stability studies, and recommendations and conclusions regarding site geology.~~

The geotechnical report required by Section J104.2.3 shall include data regarding the nature, distribution, and strength of existing soils, conclusions, and

recommendations for grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and an opinion on the adequacy for the intended use of sites to be developed by the proposed grading as affected by geotechnical factors, including the stability of slopes. All reports shall conform with the requirements of Section 111 and shall be subject to review by the Building Official. Supplemental reports and data may be required as the Building Official may deem necessary. Recommendations included in the reports and approved by the Building Official shall be incorporated in the grading plan or specifications.

The engineering geology report required by Section J104.2.3 shall include an adequate description of the geology of the site, conclusions, and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy for the intended use of sites to be developed by the proposed grading, as affected by geologic factors. The engineering geology report shall include a geologic map and cross sections utilizing the most recent grading plan as a base. All reports shall conform with the requirements of Section 111 and shall be subject to review by the Building Official. Supplemental reports and data may be required as the Building Official may deem necessary. Recommendations included in the reports and approved by the Building Official shall be incorporated in the grading plan or specifications.

Exception: A geotechnical or engineering geology report is not required where the ~~b~~Building ~~code o~~Official determines that the nature of the work applied for is such that a report is not necessary.

J104.4 Liquefaction study.

For sites with mapped maximum considered earthquake spectral response accelerations at short periods (S_s) greater than 0.5g as determined by Section 1613, a study of the liquefaction potential of the site shall be provided, and the recommendations incorporated in the plans. A geotechnical investigation will be required when the proposed work is a "Project" as defined in California Public Resources Code Section 2693, and is located in an area designated as a "Seismic Hazard Zone" as defined in Title 14 of the California Code of Regulations Section 3722 and on Seismic Hazard Zone Maps issued by the State Geologist under Public Resources Code Section 2696.

Exceptions:

1. A liquefaction study is not required where the ~~b~~Building ~~o~~Official determines from established local data that the liquefaction potential is low.

~~2. [OSHPD 1, 2, & R] Exception 1 not permitted by OSHPD.~~

SECTION 95. Section J105 is hereby amended to read as follows:

SECTION J105 INSPECTION

J105.1 General.

Grading ~~i~~inspections shall be governed by Section ~~110, Chapter 1, Division II of this code~~108 and as indicated herein. Grading operations for which a permit is required shall be subject to inspection by the Building Official. In addition, professional inspection of grading operations shall be performed by the Field Engineer, Geotechnical

Engineer, and the Engineering Geologist retained to provide such services in accordance with this Section for engineered grading and as required by the Building Official for regular grading.

J105.2 Special and supplemental inspections.

The special inspection requirements of Section 1705.6~~1704.7~~ shall apply to work performed under a grading permit where required by the ~~b~~Building ~~o~~Official. In addition to the called inspections specified in Section J105.7, the Building Official may make such other inspections as may be deemed necessary to determine that the work is being performed in conformance with the requirements of this Code. The Building Official may require investigations and reports by an approved soil testing agency, Geotechnical Engineer and/or Engineering Geologist, and Field Engineer. Inspection reports shall be provided when requested in writing by the Building Official.

The Building Official may require continuous inspection of drainage devices by the Field Engineer in accordance with this Section when the Building Official determines that the drainage devices are necessary for the protection of the structures in accordance with Section 110.

J105.3 Field engineer.

The Field Engineer shall provide professional inspection of those parts of the grading project within such engineer's area of technical specialty, oversee and coordinate all field surveys, set grade stakes, and provide site inspections during grading operations to ensure the site is graded in accordance with the approved grading plan and the appropriate requirements of this Code. During site grading, and at the

completion of both rough grading and final grading, the Field Engineer shall submit statements and reports as required by Sections J105.11 and J105.12. If revised grading plans are required during the course of the work, they shall be prepared by a Civil Engineer and approved by the Building Official.

J105.4 Geotechnical engineer.

The Geotechnical Engineer shall provide professional inspection of those parts of the grading project within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The Geotechnical Engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this Chapter. If conditions differing from the approved geotechnical engineering and engineering geology reports are encountered during grading, the Geotechnical Engineer shall provide revised recommendations to the permittee, the Building Official and the Field Engineer.

J105.5 Engineering geologist.

The Engineering Geologist shall provide professional inspection of those parts of the grading project within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. If conditions differing from the approved engineering geology report are encountered, the Engineering Geologist shall provide revised recommendations to the Geotechnical Engineer.

J105.6 Permittee.

The permittee shall be responsible for ensuring that the grading is performed in accordance with the approved plans and specifications and in conformance with the provisions of this Code. The permittee shall engage project consultants, if required under the provisions of this Code, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the project consultants, the contractor, and the Building Official. In the event of changed conditions, the permittee shall be responsible for informing the Building Official of such change and shall provide revised plans for approval.

J105.7 Required inspections.

The permittee shall call for an inspection by the Building Official at the following various stages of work and shall obtain the approval of the Building Official prior to proceeding to the next stage of work:

Pre-grade. Before any construction or grading activities occur at the site. Permittee shall schedule a pregrade inspection with the Building Official. The permittee shall ensure that all project consultants are present at the pre-grade inspection.

Initial grade. When the site has been cleared of vegetation and unapproved fill and has been scarified, benched, or otherwise prepared for fill. No fill shall have been placed prior to this inspection.

Rough grade. When approximate final elevations have been established, drainage terraces, swales, and other drainage devices necessary for the protection of

the building sites from flooding have been installed, berms have been installed at the top of the slopes, and the statements required by Section J105.12 have been received.

Final grade. When grading has been completed, all drainage devices necessary to drain the building pad have been installed, slope planting has been established, irrigation systems have been installed, and the as-built plans and required statements and reports have been submitted.

J105.8 Notification of noncompliance.

If, in the course of fulfilling their respective duties under this Chapter, the Field Engineer, the Geotechnical Engineer, or the Engineering Geologist determines that the work is not being done in conformance with this Chapter or the approved grading plans, the Field Engineer, Geotechnical Engineer, or the Engineering Geologist shall immediately report, in writing, the discrepancies and the recommended corrective measures to the permittee and to the Building Official.

J105.9 Transfer of responsibility.

If the Field Engineer, the Geotechnical Engineer, or the Engineering Geologist of record is changed at any time after the grading plans required pursuant to Section J104.2.2 or J104.2.3 have been approved by the Building Official, the permittee shall immediately provide written notice of such change to the Building Official. The Building Official may stop the grading from commencing or continuing until the permittee has identified a replacement and the replacement has agreed in writing to assume responsibility for those parts of the grading project that are within the replacement's area of technical competence.

J105.10 Non-inspected grading.

No person shall own, use, occupy, or maintain any non-inspected grading. For the purposes of this Code, non-inspected grading shall be defined as any grading for which a grading permit was first obtained, pursuant to Section J103, above, but which has progressed beyond any point requiring inspection and approval by the Building Official without such inspection and approval having been obtained.

J105.11 Routine field inspections and reports.

Unless otherwise directed by the Building Official, the Field Engineer for all engineered grading projects shall prepare routine inspection reports and shall file these reports with the Building Official as follows:

1. Bi-weekly during all times when grading of 400 cubic yards or more per week is occurring on the site;

2. Monthly, at all other times; and

3. At any time when requested in writing by the Building Official.

Such reports shall certify to the Building Official that the Field Engineer has inspected the grading site and related activities and has found them in compliance with the approved grading plans and specifications, this Code, all grading permit conditions, and all other applicable ordinances and requirements. The reports shall conform to a standard "Report of Grading Activities" form which shall be provided by the Building Official.

J105.12 Completion of work.

Upon completion of the rough grading work and at the final completion of the work, the following reports and drawings and supplements thereto are required for engineered grading or when professional inspection is otherwise required by the Building Official:

1. An "As-built" grading plan prepared by the Field Engineer retained to provide such services in accordance with Section J105.3 showing all plan revisions as approved by the Building Official. This shall include original ground surface elevations, as-built ground surface elevations, lot drainage patterns, and the locations and elevations of surface drainage facilities and the outlets of subsurface drains. As-built locations, elevations, and details of subsurface drains shall be shown as reported by the Geotechnical Engineer.

The As-built grading plan shall be accompanied by a certification by the Field Engineer that to the best of his or her knowledge, the work within the Field Engineer's area of responsibility was done in accordance with the final approved grading plan.

2. A report prepared by the Geotechnical Engineer retained to provide such services in accordance with Section J105.4, including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved geotechnical engineering investigation report. The report shall include a certification by the Geotechnical Engineer that, to the best of his or her knowledge, the work within the Geotechnical Engineer's area of responsibility

is in accordance with the approved geotechnical engineering report and applicable provisions of this Chapter. The report shall contain a finding regarding the safety of the completed grading and any proposed structures against hazard from landslide, settlement, or slippage.

3. A report prepared by the Engineering Geologist retained to provide such services in accordance with Section J105.5, including a final description of the geology of the site and any new information disclosed during the grading and the effect of such new information, if any, on the recommendations incorporated in the approved grading plan. The report shall contain a certification by the Engineering Geologist that, to the best of his or her knowledge, the work within the Engineering Geologist's area of responsibility is in accordance with the approved engineering geology report and applicable provisions of this Chapter. The report shall contain a finding regarding the safety of the completed grading and any proposed structures against hazard from landslide, settlement, or slippage. The report shall contain a final as-built geologic map and cross-sections depicting all the information collected prior to and during grading.

4. The grading contractor shall certify, on a form prescribed by the Building Official, that the grading conforms to said as-built plan and the approved specifications.

5. When a landscape permit is required by Section 490.1 of the California Department of Water Resources Model Water Efficient Landscape Ordinance, the Landscape Architect shall certify on a form prescribed by the Building Official that the landscaping conforms to approved landscape plans and specifications.

J105.13 Notification of completion.

The permittee shall notify the Building Official when the grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion-control measures have been completed in accordance with the final approved grading plan, and all required reports have been submitted and approved.

J105.14 Change of ownership.

Unless otherwise required by the Building Official, when a grading permit has been issued on a site and the owner sells the property prior to final grading approval, the new property owner shall be required to obtain a new grading permit.

SECTION 96. Section J106.1 is hereby amended to read as follows:

J106.1 Maximum cut slope.

The slope of cut surfaces shall be no steeper than is safe for the intended use, and shall be no steeper than two units horizontal to one unit vertical (50-percent slope) unless the owner or authorized agent furnishes a geotechnical or an engineering geology report, or both justifying a steeper slope. The reports must contain a statement by the Geotechnical Engineer or Engineering Geologist that the site was investigated and an opinion that a steeper slope will be stable and will not create a hazard to public or private property, in conformance with the requirements of Section 111. The Building Official may require the slope of the cut surfaces to be flatter in slope than 2 units horizontal to 1 unit vertical if the Building Official finds it necessary for the stability and safety of the slope.

Exceptions:

1. A cut surface may be at a slope of 1.5 units horizontal to one unit vertical (67 percent) provided that all the following are met:

1.1 It is not intended to support structures or surcharges.

1.2 It is adequately protected against erosion.

1.3 It is no more than 8 feet (2438 mm) in height.

1.4 It is approved by the ~~b~~Building ~~code o~~Official.

1.5 Ground water is not encountered.

~~2. A cut surface in bedrock shall be permitted to be at a slope of 1 horizontal to 1 vertical (100 percent).~~

SECTION 97. Section J107 is hereby amended to read as follows:

SECTION J107 FILLS

J107.1 General.

Unless otherwise recommended in the geotechnical report, fills shall comply with the provisions of this ~~s~~Section.

Exception: The Building Official may permit a deviation from the provisions of this Chapter for minor fills not intended to support structures, where no geotechnical report has been prepared.

J107.2 Surface Preparation.

Fill slopes shall not be constructed on natural slopes steeper than 2 units horizontal to 1 unit vertical (50 percent slope). The ground surface shall be prepared to receive fill by removing vegetation, topsoil and other unsuitable materials (including any

existing fill that does not meet the requirements of this Chapter), and scarifying the ground to provide a bond with the fill material.

Subdrains shall be provided under all fills placed in natural drainage courses and in other locations where seepage is evident, except where the Geotechnical Engineer or Engineering Geologist recommends otherwise. Such sub-drainage systems shall be of a material and design approved by the Geotechnical Engineer and acceptable to the Building Official. The Geotechnical Engineer shall provide continuous inspection during the process of subdrain installations. The location of the subdrains shall be shown on a plan prepared by the Soils Engineer. Excavations for the subdrains shall be inspected by the Engineering Geologist when such subdrains are included in the recommendations of the Engineering Geologist.

J107.3 Benching.

Where existing grade is at a slope steeper than five units horizontal to one unit vertical (20-percent) and the depth of the fill exceeds 5 feet (1,524 mm) benching shall be provided into sound bedrock or other competent material as determined by the Geotechnical Engineer. The ground preparation shall be in accordance with Figure J107.3 or as determined by the Geotechnical Engineer. When fill is to be placed over a cut, Aa key shall be provided which is at least 10 feet (3,048 mm) in width and 2 feet (610 mm) in depth. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be constructed thereon. The Geotechnical Engineer or Engineering Geologist or both shall inspect and approve the cut as being suitable for the foundation and placement of fill material before any fill material is placed on the excavation.

. . .

J107.4 Fill material.

Fill material shall not include organic, frozen, or other deleterious materials. Unless approved by the Building Official, ~~N~~no rock or similar irreducible material greater than 12 inches (305 mm) in any dimension shall be included in fills.

Exception: The Building Official may permit placement of larger rock when the Geotechnical Engineer properly devises and recommends a method of placement, and continuously inspects the placement and approves the fill stability. The following requirements shall also apply:

1. Prior to issuance of the grading permit, potential rock disposal areas shall be delineated on the grading plan.

2. Rock sizes greater than 12 inches (0.3 m) in maximum dimension shall be 10 feet (3.0 m) or more below grade, measured vertically.

3. Rocks shall be placed so as to assure filling of all voids with well-graded soil.

4. The reports submitted by the Geotechnical Engineer shall acknowledge the placement of the oversized material and whether the work was performed in accordance with the engineer's recommendations and the approved plans.

5. The location of oversized rock dispersal areas shall be shown on the as-built plan.

J107.5 Compaction.

All fill material shall be compacted to a minimum of 90 percent of maximum density as determined by ASTM D 1557, Modified Proctor, in lifts not exceeding 12 inches (305 mm) in depth within 40 feet (12.2 m) below finished grade and 93 percent of maximum dry density deeper than 40 feet (12.2 m) below finished grade, unless a lower relative compaction (not less than 90 percent of maximum dry density) is justified by the Geotechnical Engineer and approved by the Building Official. Where ASTM D 1557, Modified Proctor is not applicable, a test acceptable to the Building Official shall be used.

~~[DSA-SS & DSA-SS/CC] This section establishes minimum requirements only.~~

Field density shall be determined by a method acceptable to the Building Official. However, not less than ten percent of the required density tests, uniformly distributed, shall be obtained by the Sand Cone Method.

Fill slopes steeper than 2 units horizontal to 1 unit vertical (50-percent slope) shall be constructed by the placement of soil a sufficient distance beyond the proposed finish slope to allow compaction equipment to operate at the outer surface limits of the final slope surface. The excess fill is to be removed prior to completion or rough grading. Other construction procedures may be utilized when it is first shown to the satisfaction of the Building Official that the angle of slope, construction method, and other factors will comply with the intent of this Section.

J107.6 Maximum fill slope.

The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes steeper than two units horizontal to one unit vertical (50-percent slope) shall be justified by a geotechnical reports ~~or engineering data~~conforming to the requirements of Section 111, containing a statement by the Geotechnical Engineer that the site has been investigated and an opinion that a steeper fill slope will be stable and will not create a hazard to public or private property. Substantiating calculations and supporting data may be required where the Building Official determines that such information is necessary to verify the stability and safety of the proposed slope. The Building Official may require the fill slope to be constructed with a face flatter in slope than 2 units horizontal to 1 unit vertical (50-percent slope) if the Building Official finds it necessary for stability and safety of the slope.

J107.7 Slopes to receive fill.

Where fill is to be placed above the top of an existing slope steeper than 3 units horizontal to 1 unit vertical (33-percent slope), the toe of the fill shall be set back from the top edge of the existing slope a minimum distance of 6 feet (1.8 m) measured horizontally or such other distance as may be specifically recommended by a Geotechnical Engineer or Engineering Geologist and approved by the Building Official.

J107.8 Inspection of fill.

For engineered grading, the Geotechnical Engineer shall provide sufficient inspections during the preparation of the natural ground and the placement and compaction of the fill to ensure that the work is performed in accordance with the

conditions of plan approval and the appropriate requirements of this Chapter. In addition to the above, the Geotechnical Engineer shall provide continuous inspection during the entire fill placement and compaction of fills that will exceed a vertical height or depth of 30 feet (9.1 m) or result in a slope surface steeper than 2 units horizontal to 1 unit vertical (50-percent slope).

J107.9 Testing of fills.

Sufficient tests of the fill soils shall be made to determine the density and to verify compliance of the soil properties with the design requirements. This includes soil types and shear strengths in accordance with Section J111 Referenced Standards.

SECTION 98. Section J108 is hereby amended to read as follows:

SECTION J108 SETBACKS

J108.1 General.

Cut and fill slopes shall be set back from the property lines in accordance with this sSection. Setback dimensions shall be measured perpendicular to the property line and shall be as shown in Figure J108.1, unless substantiating data is submitted justifying reduced setbacks and reduced setbacks are recommended in a geotechnical engineering and engineering geology report approved by the Building Official.

J108.2 Top of slope.

The setback at the top of a cut slope shall not be less than that shown in Figure J108.1, or than is required to accommodate any required interceptor drains, whichever is greater. For graded slopes the property line between adjacent lots shall be at the

apex of the berm at the top of the slope. Property lines between adjacent lots shall not be located on a graded slope steeper than 5 units horizontal to 1 unit vertical (20-percent slope).

J108.3 Toe of fill sSlope protection.

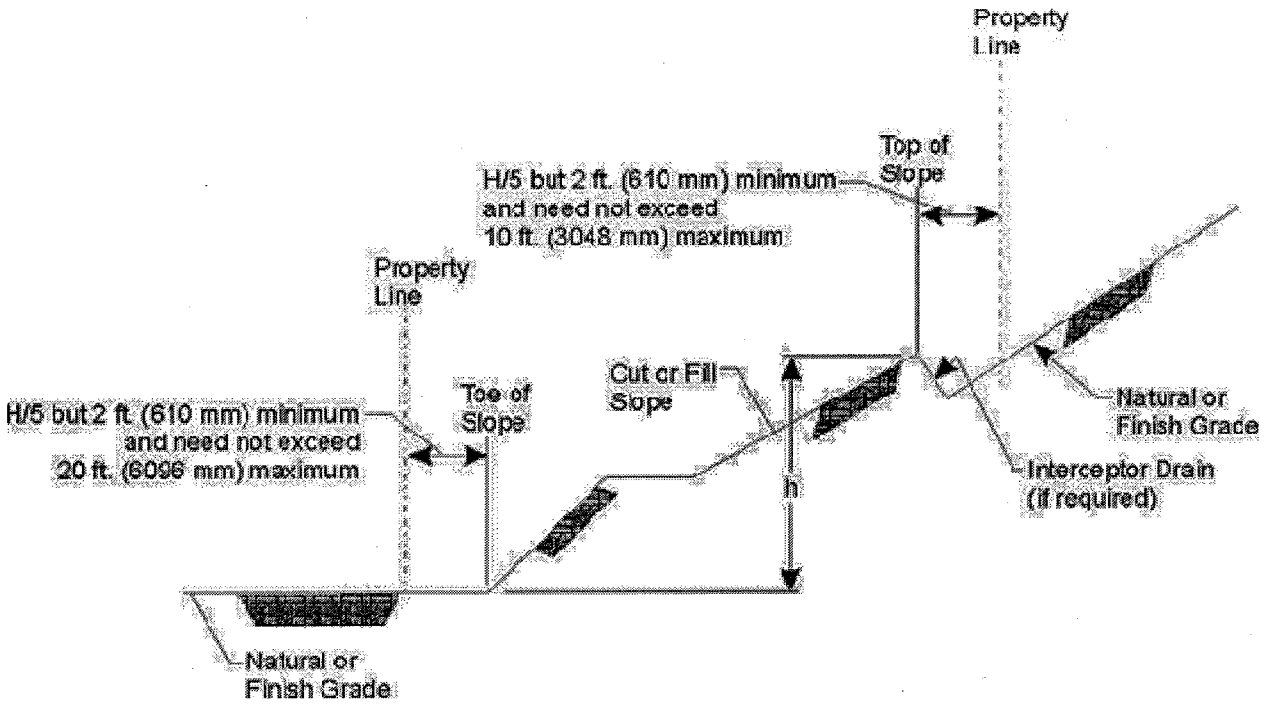
The setback from the toe of a fill slope shall not be less than that shown by figure J108.1. Where required to protect adjacent properties at the toe of a slope from adverse effects of the grading, additional protection, approved by the ~~b~~Building ~~o~~Official, shall be included. Such protection may include but shall not be limited to:

1. Setbacks greater than those required by Figure J108.1.
2. Provisions for retaining walls or similar construction.
3. Erosion protection of the fill slopes.
4. Provision for the control of surface waters.

J108.4 Alternate setbacks.

The Building Official may approve alternate setbacks if he or she determines that no hazard to life or property will be created or increased. The Building Official may require an investigation and recommendation by a qualified engineer or Engineering Geologist to justify any proposed alternate setback.

SECTION 99. Figure J108.1 is hereby amended to read as follows:



For SI: 1 foot = 304.8 mm.

FIGURE J108.1
~~DRAINAGE~~SETBACK DIMENSIONS

SECTION 100. Section J109 is hereby amended to read as follows:

SECTION J109 DRAINAGE AND TERRACING

J109.1 General.

Unless otherwise recommended by a ~~registered design professional~~Civil Engineer and approved by the Building Official, drainage facilities and terracing shall be provided in accordance with the requirements of ~~this~~ sSection J109.2 for all cut and fill slopes steeper than 3 units horizontal to 1 unit vertical (33-percent slope).

~~**EXCEPTION:** Drainage facilities and terracing need not be provided where the ground slope is not steeper than 3 horizontal to 1 vertical (33 percent).~~

For slopes flatter than 3 units horizontal to 1 unit vertical (33-percent slope) and steeper than 5 units horizontal to 1 unit vertical (20-percent slope) a paved swale or ditch shall be installed at 30 foot (9.1 m) vertical intervals to control surface drainage and debris. Swales shall be sized based on contributory area and have adequate capacity to convey intercepted waters to the point of disposal as defined in Section J109.5. Swales must be paved with reinforced concrete not less than 3 inches (0.08 m) in thickness, reinforced with 6-inch (0.2 m) by 6-inch (0.2 m) No. 10 by No. 10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an equivalent approved by the Building Official. Swales must have a minimum flow line depth of 1-foot (0.3 m) and a minimum paved width of 18 inches (0.5 m). Swales shall have a minimum gradient of not less than 5 percent. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade.

J109.2 Drainage ~~T~~terraces.

~~Terraces at least 6 feet (1829 mm) in width shall be established at not more than 30-foot (9144 mm) vertical intervals on all cut or fill slopes to control surface drainage and debris. Suitable access shall be provided to allow for cleaning and maintenance.~~

~~Where more than two terraces are required, one terrace, located at approximately mid-height, shall be at least 12 feet (3658 mm) in width.~~

~~Swales or ditches shall be provided on terraces. They shall have a minimum gradient of 20 horizontal to 1 vertical (5 percent) and shall be paved with concrete not less than 3 inches (76 mm) in thickness, or with other materials suitable to the~~

~~application. They shall have a minimum depth of 12 inches (305 mm) and a minimum width of 5 feet (1524 mm).~~

~~A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (1256 m2) (projected) without discharging into a down drain.~~Drainage terraces at least 8 feet (2.4 m) in width shall be established at not more than 30-foot (9.1 m) vertical intervals on all cut or fill slopes to control surface drainage and debris. When only one terrace is required, it shall be at midheight. For cut or fill slopes greater than 100 feet (30.5 m) and up to 120 feet (36.6 m) in vertical height, one terrace at approximately midheight shall be 20 feet (6.1 m) in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet (36.6 m) in height shall be designed by the Civil Engineer and approved by the Building Official. Suitable access shall be provided to permit proper cleaning and maintenance.

Drainage swales on terraces shall have a longitudinal grade of not less than 5 percent nor more than 12 percent and a minimum depth of 1-foot (0.3 m) at the flow line. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade. Drainage swales must be paved with reinforced concrete not less than 3 inches (0.8 m) in thickness, reinforced with 6-inch (0.2 m) by 6-inch (0.2 m) No. 10 by No. 10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an approved equal paving. Drainage swales shall have a minimum depth at the deepest point of 1 foot (0.3 m) and a minimum paved width of 5 feet (1.5 m). Drainage swales on terraces shall be sized based on contributory area and have adequate capacity to convey intercepted

waters to the point of disposal as defined in Section J109.5. Downdrains or drainage outlets shall be provided at approximately 300-foot (91.4 m) intervals along the drainage terrace or at equivalent locations. Downdrains and drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal as defined in Section J109.5.

J109.3 Interceptor drains and overflow protection.

Berms, ~~i~~interceptor drains, swales, or other devices shall be installed along the top of cut slopes ~~receiving drainage from a tributary width greater than 40 feet (12 192 mm), measured horizontally.~~ to prevent surface waters from overflowing onto and damaging the face of a slope. Berms used for slope protection shall not be less than 12 inches (0.3 m) above the level of the pad and shall slope back at least 4 feet (1.2 m) from the top of the slope.

Interceptor drains shall be installed along the top of graded slopes greater than 5 feet in height receiving drainage from a slope with a tributary width greater than 30 feet (9.1 m), measured horizontally. They shall have a minimum depth of 1 foot (305 mm) and a minimum width of 3 feet (915 mm). The slope shall be approved by the ~~b~~Building ~~o~~Official, but shall not be less than 50 units horizontal to 1 unit vertical (2 percent). The drain shall be paved with concrete not less than 3 inches (76mm) in thickness, or by other materials suitable to the application and reinforced as required for drainage terraces. Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the ~~b~~Building ~~o~~Official.

. . .

J109.5 Disposal.

All drainage facilities shall be designed to convey waters to the nearest practicable street, storm drain, or natural watercourse or drainage way approved by the Building Official or other appropriate governmental agency provided that the discharge of such waters at that location will not create or increase a hazard to life or property. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices. Desilting basins, filter barriers, or other methods, as approved by the Building Official, shall be utilized to remove sediments from surface waters before such waters are allowed to enter streets, storm drains, or natural watercourses. If the drainage device discharges onto natural ground, riprap, or a similar energy dissipator may be required.

Building pads shall have a minimum drainage gradient of 2 percent toward an approved drainage facility or a public street unless otherwise directed by the Building Official. A lesser slope may be approved by the Building Official for sites graded in relatively flat terrain, or where special drainage provisions are made, when the Building Official finds such modification will not result in a hazard to life or property.

SECTION 101. Section J110 is hereby amended to read as follows:

SECTION J110 SLOPE PLANTING AND EROSION CONTROL

J110.1 General.

The faces of cut and fill slopes shall be prepared and maintained to control erosion. This control shall ~~be permitted to~~ consist of effective planting, erosion control blankets, soil stabilizers, or other means as approved by the Building Official.

Exception: Erosion control measures need not be provided on cut slopes not subject to erosion due to the erosion-resistant character of the materials as approved by the Project Consultants, to the satisfaction of the Building Official.

. . .

J110.3 Planting.

The surface of all cut slopes more than 5 feet (1.5 m) in height and fill slopes more than 3 feet (.9 m) in height shall be protected against damage from erosion by planting with grass or ground cover plants. Slopes exceeding 15 feet (4.6 m) in vertical height shall also be planted with shrubs, spaced at not to exceed 10 feet (3 m) on centers, or trees, spaced at not to exceed 20 feet (6.1 m) on centers; or a combination of shrubs and trees at an equivalent spacing, in addition to the grass or ground cover plants. The plants selected and planting methods used shall be suitable for the soil and climatic conditions of the site.

Plant material shall be selected which will produce a coverage of permanent planting to effectively control erosion. Consideration shall be given to deep-rooted plant material needing limited watering, maintenance, high root to shoot ratio, wind susceptibility, and fire-retardant characteristics. All plant materials must be approved by the Building Official.

Planting may be modified for the site if specific recommendations are provided by both the Geotechnical Engineer and a Landscape Architect. Specific recommendations must consider soils and climatic conditions, irrigation requirements, planting methods, fire-retardant characteristics, water efficiency, maintenance needs, and other regulatory

requirements. Recommendations must include a finding that the alternative planting will provide a permanent and effective method of erosion control. Modifications to planting must be approved by the Building Official prior to installation.

J110.4 Irrigation.

Slopes required to be planted by Section J110.3 shall be provided with an approved system of irrigation that is designed to cover all portions of the slope. Irrigation system plans shall be submitted to and approved by the Building Official prior to installation. A functional test of the system may be required.

For slopes less than 20 feet (6.1 m) in vertical height, hose bibs to permit hand watering will be acceptable if such hose bibs are installed at conveniently accessible locations where a hose no longer than 50 feet (15.2 m) is necessary for irrigation.

Irrigation requirements may be modified for the site if specific recommendations are provided by both the Geotechnical Engineer and a Landscape Architect. Specific recommendations must consider soils and climatic conditions, plant types, planting methods, fire-retardant characteristics, water efficiency, maintenance needs, and other regulatory requirements. Recommendations must include a finding that the alternative irrigation method will sustain the proposed planting and provide a permanent and effective method of erosion control. Modifications for irrigation systems must be approved by the Building Official prior to installation.

J110.5 Plans and specifications.

Planting and irrigation plans shall be submitted for slopes which are required to be planted and irrigated pursuant to Sections J110.3 and J110.4. Except as otherwise

required by the Building Official for minor grading, the plans for slopes 20 feet (6.1 m) or more in vertical height shall be prepared and signed by a Civil Engineer or Landscape Architect. If requested by the Building Official, planting and irrigation details shall be included on the grading plan.

J110.6 Rodent control.

Fill slopes shall be protected from potential slope damage by a preventative program of rodent control.

J110.7 Release of security.

The planting and irrigation systems required by this Section shall be installed as soon as practical after rough grading. Prior to final approval of grading and before the release of the grading security, the planting shall be well established and growing on the slopes and there shall be evidence of an effective rodent control program.

J110.8 National Pollutant Discharge Elimination System (NPDES) compliance.

J110.8.1 General.

All grading plans and permits and the owner of any property on which such grading is performed shall comply with the provisions of this Section for NPDES compliance.

All best management practices shall be installed before grading begins or as instructed in writing by the Building Official for unpermitted grading as defined by Section J103.3. As grading progresses, all best management practices shall be updated as necessary to prevent erosion and to control construction-related pollutants

from discharging from the site. All best management practices shall be maintained in good working order to the satisfaction of the Building Official until final grading approval has been granted by the Building Official and all permanent drainage and erosion control systems, if required, are in place. Failure to comply with this Section is subject to "Noncompliance Penalties" pursuant to Section J110.8.5. Payment of a penalty shall not relieve any persons from fully complying with the requirements of this Code in the execution of the work.

J110.8.2 Storm Water Pollution Prevention Plan (SWPPP).

The Building Official may require a SWPPP. The SWPPP shall contain details of best management practices, including desilting basins or other temporary drainage or control measures, or both, as may be necessary to control construction-related pollutants which originate from the site as a result of construction-related activities. When the Building Official requires a SWPPP, no grading permit shall be issued until the SWPPP has been submitted to and approved by the Building Official.

For unpermitted grading as defined by Section J103.3 upon written request, a SWPPP in compliance with the provisions of this Section and Section 106.4.3 for NPDES compliance shall be submitted to the Building Official. Failure to comply with this Section is subject to "Noncompliance Penalties" per Section J110.8.5. Payment of a penalty shall not relieve any persons from fully complying with the requirements of this Code in the execution of the work.

J110.8.3 Erosion and Sediment Control Plans (ESCP).

Where a grading permit is issued and the Building Official determines that the grading will not be completed prior to November 1, the owner of the site on which the grading is being performed shall, on or before October 1, file or cause to be filed with the Building Official a ESCP. The ESCP shall include specific best management practices to minimize the transport of sediment and protect public and private property from the effects of erosion, flooding, or the deposition of mud, debris, or construction-related pollutants. The best management practices shown on the ESCP shall be installed on or before October 15. The plans shall be revised annually or as required by the Building Official to reflect the current site conditions.

The ESCP shall be accompanied by an application for plan checking services and plan-checking fees in an amount determined by the Building Official, up to but not exceeding 10 percent of the original grading permit fee.

Failure to comply with this Section is subject to "Noncompliance Penalties" pursuant to Section J110.8.5. Payment of a penalty shall not relieve any persons from fully complying with the requirements of this Code in the execution of the work.

J110.8.4 Storm Water Pollution Prevention Plan (SWPPP), effect of noncompliance.

Should the owner fail to submit the SWPPP or the ESCP as required by Section J110.8 or fails to install the best management practices, it shall be deemed that a default has occurred under the conditions of the grading permit security. The Building Official may thereafter enter the property for the purpose of installing, by County forces

or by other means, the drainage, erosion control, and other devices shown on the approved plans, or if there are no approved plans, as the Building Official may deem necessary to protect adjoining property from the effects of erosion, flooding, or the deposition of mud, debris, or constructed-related pollutants.

The Building Official shall also have the authority to impose and collect the penalties imposed by Section J110.8.5. Payment of a penalty shall not relieve any persons from fully complying with the requirements of this Code in the execution of the work.

J110.8.5 Noncompliance penalties.

The amount of the penalties shall be as follows:

1. If a SWPPP or a ESCP is not submitted as prescribed in Sections J110.8.2 and J110.8.3:

Grading Permit Volume	Penalty
1-10,000 cubic yards (1-7645.5 m^3)	$50.00 per day
10,001-100,000 cubic yards (7646.3-76455 m^3)	$250.00 per day
More than 100,000 cubic yards (76455 m^3)	$500.00 per day

2. If the best management practices for storm water pollution prevention and wet weather erosion control, as approved by the Building Official, are not installed as prescribed in this Section J110.8:

Grading Permit Volume	Penalty
1-10,000 cubic yards (1-7645.5 m^3)	$100.00 per day
10,001-100,000 cubic yards (7646.3-76455 m^3)	$250.00 per day
More than 100,000 cubic yards (76455 m^3)	$500.00 per day

NOTE: See Section 108 for inspection request requirements.

SECTION 102. Section J111 is hereby amended to read as follows:

SECTION J111 REFERENCED STANDARDS

~~ASTM D 1557-e01~~	~~Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort [56,000 ft-lb/ft3 (2,700kN-m/m3)].~~	~~J 107.6~~

These regulations establish minimum standards and are not intended to prevent the use of alternate materials, methods, or means of conforming to such standards, provided such alternate has been approved by the Building Official.

The Building Official shall approve such an alternate provided he or she determines that the alternate is, for the purpose intended, at least the equivalent of that prescribed in this Code in quality, strength, effectiveness, durability, and safety.

The Building Official shall require that sufficient evidence or proof be submitted to substantiate any claims regarding the alternate.

The standards listed below are recognized standards. Compliance with these recognized standards shall be prima facie evidence of compliance with the standards set forth in Sections J104 and J107.

ASTM D 1557 – Latest Revision	Laboratory Characteristics Compaction of Soil Using Modified Effort	J107.5
ASTM D 1556 – Latest Revision	Density and Unit Weight of Soils In Place by the Sand Cone Method	J104.2.3, J104.3 and J107.9
ASTM D 2167 – Latest Revision	Density and Unit Weight of Soils In Place by the Rubber Balloon Method	J104.2.3 J104.3 and J107.9
ASTM D 2937 – Latest Revision	Density of Soils in Place by the Drive Cylinder Method	J104.2.3 J104.3 and J107.9
ASTM D 2922 – Latest Revision	Density of Soil and Soil Aggregate In Place by Nuclear Methods	J104.2.3 J104.3 and J107.9
ASTM D 3017 – Latest Revision	Water Content of Soil and Rock in Place by Nuclear Methods	J104.2.3, J104.3 and J107.9

SECTION 103. The provisions of this ordinance contain various changes, modifications, and additions to the 2013 California Building Code. Some of those changes are administrative in nature in that they do not constitute changes or modifications to requirements contained in the building standards published in the California Building Standards Code.

Pursuant to California Health and Safety Code sections 17958.5, 17958.7, and 18941.5, the Board of Supervisors hereby expressly finds that all of the changes and modifications to requirements contained in the building standards published in the California Building Standards Code contained in this ordinance, which are not administrative in nature, are reasonably necessary because of local climatic, geological, for topographical conditions in the County of Los Angeles as more particularly described in the table set forth below.

BUILDING CODE AMENDMENTS

Code Section	Condition	Explanation of Amendment
701A.1	Climatic	Clarifies the application of Chapter 7A to include additions, alterations, and/or relocated buildings. Many areas of the County have been designated as Fire Hazard Severity Zones due to low humidity, strong winds, and dry vegetation. Additions, alterations, and/or relocated buildings have the same fire risk as new buildings.
701A.3	Climatic	Clarifies the application of Chapter 7A to include additions, alterations, and/or relocated buildings. Many areas of the County have been designated as Fire Hazard Severity Zones due to the increased risk of fire caused by low humidity, strong winds, and dry vegetation. Additions, alterations, and/or relocated buildings have the same fire risk as new buildings.
701A.3.1	Climatic	Clarifies the application of Chapter 7A to include additions, alterations, and/or relocated buildings. Many

Code Section	Condition	Explanation of Amendment
		areas of the County have been designated as Fire Hazard Severity Zones due to the increased risk of fire caused by low humidity, strong winds, and dry vegetation. Additions, alterations, and/or relocated buildings have the same fire risk as new buildings.
703A.5.2 & 703A.5.2.2	Climatic	Disallows the use of wood-shingle/wood-shake roofs due to the increased risk of fire in the County caused by low humidity, strong winds, and dry vegetation in high fire severity zones.
704A.3	Climatic	Disallows the use of wood-shingle/wood-shake roofs due to the increased risk of fire in the County caused by low humidity, strong winds, and dry vegetation in high fire severity zones.
705A.2	Climatic	Disallows the use of wood-shingle/wood-shake roofs and requires the use of Class A roof covering due to the increased risk of fire in the County caused by low humidity, strong winds, and dry vegetation in high fire severity zones.
1029.4	Geological	The greater Los Angeles/Long Beach region is a densely populated area having buildings constructed over and near a vast array of earthquake fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed amendment is intended to prevent occupants from being trapped in a building and to allow rescue workers to easily enter after an earthquake.
1507.3.1	Geological	Section amended to require concrete and clay tiles to be installed over solid structural sheathing boards only, due to the increased risk of significant earthquakes in the County. The changes in Section 1507.3.1 are needed because there were numerous observations of tile roofs pulling away from wood framed buildings following the 1994 Northridge Earthquake. Where sheathing beneath the tile roofs was not nailed adequately or the nails were not attached on each side of each tile or the nail just pulled out over a period of time because the shank of the nails were smooth. The Structural Engineers Association of Southern California ("SEAOSC") and the Los Angeles City Joint Task Force committee findings indicated significant problems with tile roof due to inadequate design and/or construction. Therefore, the amendment is

Code Section	Condition	Explanation of Amendment
		needed to needed to minimize such occurrences in the event of future significant earthquakes.
Table 1507.3.7	Geological	Table amended to require proper anchorage for clay or concrete tiles from sliding or rotating due to the increased risk of significant earthquakes in the County. Design provisions developed based on detailed study of the 1994 Northridge and the 1971 Sylmar earthquakes need to be incorporated into the local building code.
1613.6 through 1613.6.1	Geological	The inclusion of the importance factor in this equation has the unintended consequence of reducing the minimum seismic separation distance for important facilities such as hospital, school, police, and fire station, etc., from adjoining structures. The deletion of the importance factor from Equation 16-44 will ensure that a safe seismic separation distance is provided. This amendment is a continuation of an amendment adopted during previous code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1613.6.2	Geological	Observed damages to one- and two-family dwellings of light frame construction after the Northridge Earthquake may have been partially attributed to vertical irregularities common to this type of occupancy and construction. In an effort to improve quality of construction and incorporate lessons learned from studies after the Northridge Earthquake, the modification to ASCE 7-05 Section 12.2.3.1 by limiting the number of stories and height of the structure to two stories will significantly minimize the impact of vertical irregularities and concentration of inelastic behavior from mixed structural systems. This amendment is a continuation of an amendment adopted during previous code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1613.6.3	Geological	A SEAOSC and Los Angeles City Joint Task Force investigated the performance of concrete and masonry construction with flexible wood diaphragm failures after the Northridge earthquake. It was concluded at that time that continuous ties are needed at specified spacing to control cross grain tension in the interior of the diaphragm. Additionally, subdiaphragm shears need to be limited to control combined orthogonal stresses within the

Code Section	Condition	Explanation of Amendment
		diaphragm. Recognizing the importance and need to continue the recommendation made by the task force, but also taking into consideration the improved performance and standards for diaphragm construction today, a proposal to increase the continuous tie spacing limit to 40 ft in lieu of 25 ft and to use 75 percent of the allowable code diaphragm shear to determine the depth of the sub-diaphragm in lieu of the 300 plf is deemed appropriate and acceptable. The Los Angeles region is within a very active geological location. The various jurisdictions within this region have taken additional steps to prevent roof or floor diaphragms from pulling away from concrete or masonry walls. This decision was made due to the frequency of this type of failure during the past significant earthquakes. This amendment is a continuation of an amendment adopted during previous Code adoption cycles.
1613.7	Geological Topographical	Section is added to improve seismic safety of buildings constructed on or into hillsides. Due to the local topographical and geological conditions of the sites within the Los Angeles region and their probabilities for earthquakes, this technical amendment is required to address and clarify special needs for buildings constructed on hillside locations. A SEAOSC and Los Angeles City Joint Task Force investigated the performance of hillside building failures after the Northridge earthquake. Numerous hillside failures resulted in loss of life and millions of dollars in damage. These criteria were developed to minimize the damage to these structures and have been in use by both the City and County of Los Angeles for several years with much success. This amendment is a continuation of an amendment adopted during previous Code adoption cycles.
1704.5	Geological	The language in Sections 1704.5 of the California Building Code permits the owner to employ any registered design professional to perform structural observations with minimum guidelines. However, it is important to recognize that the registered design professional responsible for the structural design has thorough knowledge of the building he/she designed. By requiring the registered design

Code Section	Condition	Explanation of Amendment
		professional responsible for the structural design or their designee who were involved with the design to observe the construction, the quality of the observation for major structural elements and connections that affect the vertical and lateral load resisting systems of the structure will greatly be increased. Additional requirements are provided to help clarify the role and duties of the structural observer and the method of reporting and correcting observed deficiencies to the building official. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1704.5.1	Geological	With the higher seismic demand placed on buildings and structures in this region, the language in Sections 1704.5.1 Item 3 of the California Building Code would permit many low-rise buildings and structures with complex structural elements to be constructed without the benefit of a structural observation. By requiring a registered design professional to observe the construction, the quality of the observation for major structural elements and connections that affect the vertical and lateral load resisting systems of the structure will greatly be increased. An exception is provided to permit simple structures and buildings to be excluded. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1705.3 and Table 1705.3	Geological	Results from studies after the 1994 Northridge Earthquake indicated that a significant portion of the damages were attributable to lack of quality control during construction resulting in poor performance of the building or structure. Therefore, the amendment restricts the exceptions to the requirement for special inspection. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1705.11	Geological	In Southern California, very few detached one- or two-family dwellings not exceeding two stories above grade plane are built as "box-type" structures, specially for those

Code Section	Condition	Explanation of Amendment
		in hillside areas and near the oceanfront. Many with steel moment frames or braced frames, and or cantilevered columns can still be shown as "regular" structures by calculations. With the higher seismic demand placed on buildings and structures in this region, the language in Sections 1705.11 Item 3 of the California Building Code would permit many detached one- or two-family dwellings not exceeding two stories above grade plane with complex structural elements to be constructed without the benefit of special inspections. By requiring special inspections, the quality of major structural elements and connections that affect the vertical and lateral load resisting systems of the structure will greatly be increased. The exception should only be allowed for detached one- or two-family dwellings not exceeding two stories above grade plane assigned to Seismic Design category A, B, and C.
1807.1.4	Climatic Geological	No substantiating data has been provided to show that a wood foundation is effective in supporting buildings and structures during a seismic event while being subject to deterioration caused by the combined detrimental effect of constant moisture in the soil and wood-destroying organisms. Wood retaining walls, when they are not properly treated and protected against deterioration, have performed very poorly and have led to slope failures. Most contractors are typically accustomed to construction in dry and temperate weather in the Southern California region and are not generally familiar with the necessary precautions and treatment of wood that makes it suitable for both seismic events and wet applications. The proposed amendment takes the necessary precautionary steps to reduce or eliminate potential problems that may result by using wood foundations that experience relatively rapid decay due to the fact that the region does not experience temperatures cold enough to destroy or retard the growth and proliferation of wood-destroying organisms. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1807.1.6	Geological	With the higher seismic demand placed on buildings and

Code Section	Condition	Explanation of Amendment
		structures in this region, it is deemed necessary to take precautionary steps to reduce or eliminate potential problems that may result by following prescriptive design provisions that do not take into consideration the surrounding environment. Plain concrete performs poorly in withstanding the cyclic forces resulting from seismic events. In addition, no substantiating data has been provided to show that under-reinforced foundation walls are effective in resisting seismic loads and may potentially lead to a higher risk of failure. It is important that the benefit and expertise of a registered design professional be obtained to properly analyze the structure and take these issues into consideration. This amendment is a continuation of an amendment adopted during previous Code adoption cycles.
1809.3	Geological	With the higher seismic demand placed on buildings and structures in this region, it is deemed necessary to take precautionary steps to reduce or eliminate potential problems that may result for under-reinforced footings located on sloped surfaces. Requiring minimum reinforcement for stepped footings is intended to address the problem of poor performance of plain or under-reinforced footings during a seismic event. This amendment is a continuation of an amendment adopted during previous Code adoption cycles.
1809.7 and Table 1809.7	Geological	No substantiating data has been provided to show that under-reinforced footings are effective in resisting seismic loads and may potentially lead to a higher risk of failure. Therefore, this amendment requires minimum reinforcement in continuous footings to address the problem of poor performance of plain or under-reinforced footings during a seismic event. With the higher seismic demand placed on buildings and structures in this region, it is deemed necessary to take precautionary steps to reduce or eliminate potential problems that may result by following prescriptive design provisions for footings that do not take into consideration the surrounding environment. It was important that the benefit and expertise of a registered design professional be obtained to properly analyze the structure and take these factors into consideration. This amendment reflects the

Code Section	Condition	Explanation of Amendment
		recommendations by the SEAOSC and the Los Angeles City Joint Task Force that investigated the poor performance observed in the 1994 Northridge Earthquake. This amendment is a continuation of an amendment adopted during previous Code adoption cycles.
1809.12	Climatic Geological	No substantiating data has been provided to show that timber footings are effective in supporting buildings and structures during a seismic event while being subject to deterioration caused by the combined detrimental effects of constant moisture in the soil and wood-destroying organisms. Timber footings, when they are not properly treated and protected against deterioration, have performed very poorly. Most contractors are typically accustomed to construction in dry and temperate weather in the Southern California region and are not generally familiar with the necessary precautions and treatment of wood that makes it suitable for both seismic events and wet applications. The proposed amendment takes the necessary precautionary steps to reduce or eliminate potential problems that may result by using timber footings that experience relatively rapid decay due to the fact that the region does not experience temperatures cold enough to destroy or retard the growth and proliferation of wood-destroying organisms. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1905.1 and 1905.1.3	Geological	The design provision for wall pier detailing was originally introduced by SEAOC in 1987 to legacy Uniform Building Code (UBC) and was included in the 1988 UBC through the 1997 UBC (2002 CBC). The wall pier detailing provision prescribed under Section 1905.1.4 was intended for high seismic zones equivalent to current Seismic Design Category D, E, or F. Section 1905.1.3 was added as a complement of wall pier detailing in Seismic Design Category C (formerly seismic zones 2A and 2B under the legacy model code). ACI 318 Commentary R 21.1.1 emphasized "it is essential that structures assigned to higher Seismic Design Categories possess a higher degree of toughness," and further encourages practitioners to use special structural wall systems in

Code Section	Condition	Explanation of Amendment
		regions of high seismic risk. ASCE 7 Table 12.2-1 permits intermediate precast structural wall system in Seismic Design Category D, E, or F. Current Section 1905.1.3 is not limited to just structures assigned to Seismic Design Category C. The required shear strength under 21.3.3, referenced in Section 21.4.6, is based on V_u under either nominal moment strength or two times the code prescribed earthquake force. The required shear strength in 21.6.5.1, referenced in Section 21.9.8.2 (IBC 1905.1.4), is based on the probable shear strength, V_e under the probable moment strength, M_{pr}. In addition, the spacing of required shear reinforcement is 8 inches on center under current Section 21.4.6 instead of 6 inches on center with seismic hooks at both ends under Section 21.9.8.2. Requirement of wall pier under Section 21.9.8.2 would enhance better ductility. The current practice in commercial buildings constructed using precast panel wall systems is to have large window and door openings and/or narrow wall piers. Wall panels varying up to three stories high with openings resembles a wall frame which is not currently recognized under any of the defined seismic-force resisting systems other than consideration of structural wall systems. Conformance to special structural wall system design and detailing of wall piers ensures minimum life safety performance in resisting earthquake forces for structures in Seismic Design Category D, E, or F. The modification separates wall piers designed for structures assigned to Seismic Design Category C from those assigned to Seismic Design Category D, E, or F. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1905.1.8	Geological	This amendment requires minimum reinforcement in continuous footings to address the problem of poor performance of plain or under-reinforced footings during a seismic event. This amendment reflects the recommendations by the SEAOSC and the Los Angeles City Joint Task Force that investigated the poor performance observed in 1994 Northridge Earthquake. This amendment is a continuation of an amendment

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		adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
1905.1.10 through 1905.1.12	Geological	This amendment is intended to carry over critical provisions for the design of concrete columns in moment frames from the UBC. Increased confinement is critical to the integrity of such columns and these modifications ensure that it is provided when certain thresholds are exceeded. In addition, this amendment carries over from the UBC a critical provision for the design of concrete shear walls. It essentially limits the use of very highly gravity-loaded walls from being included in the seismic load resisting system, since their failure could have catastrophic effect on the building. Furthermore, this amendment was incorporated in the Code based on observations from the 1994 Northridge Earthquake. Rebar placed in very thin concrete topping slabs has been observed in some instances to have popped out of the slab due to insufficient concrete coverage. This modification ensures that critical boundary and collector rebars are placed in sufficiently thick slabs to prevent buckling of such reinforcements. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
2304.9.1 and Table 2304.9.1	Geological	Due to the high geologic activities in the Southern California area and the expected higher level of performance on buildings and structures, this proposed local amendment limits the use of staple fasteners in resisting or transferring seismic forces. In September 2007, limited cyclic testing data was provided to the ICC Los Angeles Chapter Structural Code Committee showing that stapled wood structural shear panels do not exhibit the same behavior as nailed wood structural shear panels. The test results of stapled wood structural shear panels appeared much lower in strength and drift than nailed wood structural shear panel test results. Therefore, the use of staples as fasteners to resist or transfer seismic forces shall not be permitted without being substantiated by cyclic testing. This amendment is a continuation of a similar amendment adopted during previous Code

Code Section	Condition	Explanation of Amendment
		adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
2304.11.7	Climatic Geological	No substantiating data has been provided to show that wood used in retaining or crib walls is effective in supporting buildings and structures during a seismic event while being subject to deterioration caused by the combined detrimental effect of constant moisture in the soil and wood-destroying organisms. Wood used in retaining or crib walls, when it is not properly treated and protected against deterioration, has performed very poorly. Most contractors are typically accustomed to construction in dry and temperate weather in the Southern California region and are not generally familiar with the necessary precautions and treatment of wood that makes it suitable for both seismic events and wet applications. The proposed amendment takes the necessary precautionary steps to reduce or eliminate potential problems that may result by using wood in retaining or crib walls that experience relatively rapid decay due to the fact that the region does not experience temperatures cold enough to destroy or retard the growth and proliferation of wood-destroying organisms. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
2305.4	Geological	The overdriving of nails into the structural wood panels still remains a concern when pneumatic nail guns are used for wood structural panel shear wall nailing. Box nails were observed to cause massive and multiple failures of the typical 3/8-inch thick plywood during the 1994 Northridge Earthquake. The use of clipped head nails continues to be restricted from use in wood structural panel shear walls where the minimum nail head size must be maintained in order to minimize nails from pulling through sheathing materials. Clipped or mechanically driven nails used in wood structural panel shear wall construction were found to perform much worse in previous wood structural panel shear wall testing done at the University of California Irvine. The existing test results indicated that, under cyclic loading, the wood structural panel shear walls were less energy absorbent and less

Code Section	Condition	Explanation of Amendment
		ductile. The panels reached ultimate load capacity and failed at substantially less lateral deflection than those using same size hand-driven nails. This amendment reflects the recommendations by the SEAOSC and the Los Angeles City Joint Task Force that investigated the poor performance observed in 1994 Northridge Earthquake. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
2305.5	Geological	Many of the hold-down connectors currently in use do not have any acceptance report based on dynamic testing protocol. This amendment continues to limit the allowable capacity to 75% of the acceptance report value to provide an additional factor of safety for statically tested anchorage devices. Cyclic forces imparted on buildings and structures by seismic activity cause more damage than equivalent forces which are applied in a static manner. Steel plate washers will reduce the additional damage which can result when hold-down connectors are fastened to wood framing members. This amendment reflects the recommendations by the SEAOSC and the Los Angeles City Joint Task Force that investigated the poor performance observed in the 1994 Northridge Earthquake. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
2306.2	Geological	The SEAOSC and the Los Angeles City Joint Task Force that investigated the damages to buildings and structures during the 1994 Northridge Earthquake recommended reducing allowable shear values in wood structural panel shear walls or diaphragms that were not substantiated by cyclic testing. That recommendation was consistent with a report to the Governor from the Seismic Safety Commission of the State of California recommending that code requirements be "more thoroughly substantiated with testing." The allowable shear values for wood structural panel shear walls or diaphragms fastened with staples are based on monotonic testing and do not take into

Code Section	Condition	Explanation of Amendment
		consideration that earthquake forces load shear wall or diaphragm in a repeating and fully reversible manner. In September 2007, limited cyclic testing was conducted by a private engineering firm to determine if wood structural panels fastened with staples would exhibit the same behavior as wood structural panels fastened with common nails. The test result revealed that wood structural panels fastened with staples appeared to be much lower in strength and stiffness than wood structural panels fastened with common nails. It was recommended that the use of staples as fasteners for wood structural panel shear walls or diaphragms not be permitted to resist seismic forces in structures assigned to Seismic Design Category D, E and F unless it can be substantiated by cyclic testing. Furthermore, the cities and unincorporated areas within the Los Angeles region have taken extra measures to maintain the structural integrity of the framing of shear walls and diaphragms designed for high levels of seismic forces by requiring wood sheathing be applied directly over the framing members and prohibiting the use of panels placed over gypsum sheathing. This amendment is intended to prevent the undesirable performance of nails when gypsum board softens due to cyclic earthquake displacements and the nail ultimately does not have any engagement in a solid material within the thickness of the gypsum board. This amendment continues the previous amendment adopted during the 2007 Code adoption cycle.
2306.3 and 2307.2	Geological	The SEAOSC and the Los Angeles City Joint Task Force that investigated the damages to buildings and structures during the 1994 Northridge Earthquake recommended reducing allowable shear values in wood structural panel shear walls or diaphragms that were not substantiated by cyclic testing. That recommendation was consistent with a report to the Governor from the Seismic Safety Commission of the State of California recommending that code requirements be "more thoroughly substantiated with testing." The allowable shear values for wood structural panel shear walls or diaphragms fastened with stapled nails are based on monotonic testing and do not take into consideration that earthquake forces load shear wall or

Code Section	Condition	Explanation of Amendment
		diaphragm in a repeating and fully reversible manner. In September 2007, limited cyclic testing was conducted by a private engineering firm to determine if wood structural panels fastened with stapled nails would exhibit the same behavior as wood structural panels fastened with common nails. The test result revealed that wood structural panel fastened with stapled nails appeared to be much lower in strength and stiffness than wood structural panels fastened with common nails. It was recommended that the use of stapled nail as fasteners for wood structural panel shear walls or diaphragms not be permitted to resist seismic forces in structures assigned to Seismic Design Category D, E and F unless it can be substantiated by cyclic testing. Furthermore, the cities and unincorporated areas within the Los Angeles region have taken extra measures to maintain the structural integrity of the framing of shear walls and diaphragms designed for high levels of seismic forces by requiring wood sheathing be applied directly over the framing members and prohibiting the use of panels placed over gypsum sheathing. This amendment is intended to prevent the undesirable performance of nails when gypsum board softens due to cyclic earthquake displacements and the nail ultimately does not have any engagement in a solid material within the thickness of the gypsum board. This amendment continues the previous amendment adopted during the 2007 Code adoption cycle, and is necessary due to the increased risk of significant earthquakes in the County.
2308.3.4	Geological	With the higher seismic demand placed on buildings and structures in this region, interior walls can easily be called upon to resist over half of the seismic loading imposed on simple buildings or structures. Without a continuous foundation to support the braced wall line, seismic loads would be transferred through other elements such as non-structural concrete slab floors, wood floors, etc. The purpose of this amendment is to limit the use of the exception to structures assigned to Seismic Design Category A, B or C where lower seismic demands are expected. Requiring interior braced walls be supported by continuous foundations is intended to reduce or eliminate the poor performance of buildings or structures. This

Code Section	Condition	Explanation of Amendment
		amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
2308.9.3.1, 2308.9.3.2 and Figure 2308.9.3.2	Geological	The SEAOSC and the Los Angeles City Joint Task Force that investigated the damages to buildings and structures during the 1994 Northridge Earthquake recommended reducing allowable shear values in wood structural panel shear walls or diaphragms that were not substantiated by cyclic testing. That recommendation was consistent with a report to the Governor from the Seismic Safety Commission of the State of California recommending that code requirements be "more thoroughly substantiated with testing." The allowable shear values for wood structural panel shear walls or diaphragms fastened with stapled nails are based on monotonic testing and do not take into consideration that earthquake forces load shear wall or diaphragm in a repeating and fully reversible manner. In September 2007, limited cyclic testing was conducted by a private engineering firm to determine if wood structural panels fastened with stapled nails would exhibit the same behavior as wood structural panels fastened with common nails. The test result revealed that wood structural panel fastened with stapled nails appeared to be much lower in strength and stiffness than wood structural panels fastened with common nails. It was recommended that the use of stapled nail as fasteners for wood structural panel shear walls or diaphragms not be permitted to resist seismic forces in structures assigned to Seismic Design Category D, E and F unless it can be substantiated by cyclic testing. Furthermore, the cities and unincorporated areas within the Los Angeles region have taken extra measures to maintain the structural integrity of the framing of shear walls and diaphragms designed for high levels of seismic forces by requiring wood sheathing be applied directly over the framing members and prohibiting the use of panels placed over gypsum sheathing. This amendment is intended to prevent the undesirable performance of nails when gypsum board softens due to cyclic earthquake displacements and the nail ultimately does not have any engagement in a solid material within

Code Section	Condition	Explanation of Amendment
		the thickness of the gypsum board.
Table 2308.12.4	Geological	This amendment specifies minimum sheathing thickness and nail size and spacing so as to provide a uniform standard of construction for designers and buildings to follow. This is intended to improve the performance level of buildings and structures that are subject to the higher seismic demands placed on buildings or structure in this region. This proposed amendment reflects the recommendations by the SEAOSC and the Los Angeles City Joint Task Force that investigated the poor performance observed in 1994 Northridge Earthquake. This amendment is a continuation of an amendment adopted during previous Code adoption cycles, and is necessary due to the increased risk of significant earthquakes in the County.
2308.12.5	Geological	Due to the high geologic activities in the Southern California area and the expected higher level of performance on buildings and structures, this amendment limits the use of staple fasteners in resisting or transferring seismic forces. In September 2007, limited cyclic testing data was provided to the ICC Los Angeles Chapter Structural Code Committee showing that stapled wood structural shear panels do not exhibit the same behavior as nailed wood structural shear panels. The test results of stapled wood structural shear panels appeared much lower in strength and drift than nailed wood structural shear panel test results. Therefore, the use of staples as fasteners to resist or transfer seismic forces shall not be permitted without being substantiated by cyclic testing. This amendment is a continuation of a similar amendment adopted during previous Code adoption cycles.
3401.10.1 to 3401.10.3	Geological	The greater Los Angeles/Long Beach region is a densely populated area having buildings constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The purpose of the amendments is to prevent inadequate construction or bracing to resist horizontal forces, thus becoming a hazard to life or property in the event of an earthquake.
3401.11	Geological	The greater Los Angeles/Long Beach region is a densely populated area having buildings constructed over and

Code Section	Condition	Explanation of Amendment
		near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The purpose of the amendment is to save lives in the event of an earthquake when panics occur and glass shatters.
J101.1	Geological Topographical Climate	This Section is revised to include erosion and sediment control measures to address the complex and diverse set of soil types and geologic conditions that exist in the Los Angeles County region.
J103.1 – J103.2	Geological Topographical Climate	Sections revised to provide adequate control of grading operations typical to the Los Angeles County region due to the complex and diverse set of soil types, climates, and geologic conditions that exist in the Los Angeles County region.
J104.2.1 – J104.4	Geological Topographical Climate	Sections revised or added to provide adequate control of grading operations typical to the Los Angeles County region due to the complex and diverse set of soil types, climates, and geologic conditions that exist in the Los Angeles County region.
J105.1- J105.14	Geological Topographical Climate	Sections revised or added to provide adequate control of grading operations typical to the Los Angeles County region due to the complex and diverse set of soil types, climates, and geologic conditions that exist in the Los Angeles County region.
J106.1	Geological Topographical Climate	Section revised to require more stringent cut slope ratios to address the complex and diverse set of soil types and geologic conditions that exist in the Los Angeles County region.
J107.1- J107.7	Geological Topographical Climate	Sections revised to provide more stringent fill requirements for slope stability, and settlement due to the complex and diverse set of soil types, climates, and geologic conditions which exist in the Los Angeles County region.
J107.8 – J107.9	Geological Topographical Climate	Sections revised to provide more stringent inspection and testing requirements for fill slope stability due to the complex and diverse set of soil types, climates, and geologic conditions which exist in the Los Angeles County region.
J108.1 – J108.4	Geological Topographical Climate	Sections revised to provide more stringent slope setback requirements to address the complex and diverse set of soil types, climates, and geologic conditions which exist in

Code Section	Condition	Explanation of Amendment
		the Los Angeles County region.
J109.1 – J109.3	Geological Topographical Climate	Sections revised to provide more stringent drainage and terracing requirements to address the complex and diverse set of soil types, climates, and geologic conditions which exist in the Los Angeles County region.
J109.5	Geological Topographical Climate	Subsection added to provide for adequate outlet of drainage flows due to the diverse set of soil types, climates, and geologic conditions which exist in the Los Angeles County region.
J110 - J110.8.5	Geological Topographical Climate	Sections revised or added to provide for State requirements of storm water pollution prevention and more stringent slope planting, and slope stability requirements to control erosion due to the complex and diverse set of soil types, climates, and geologic conditions that exist in the Los Angeles County region.
J111	Geological Topographical Climate	Section revised to reference additional standards for soils testing due to the complex and diverse set of soil types, climates, and geologic conditions that exist in the Los Angeles County region.

SECTION 104. This ordinance shall become operative on January 1, 2014.

[TITLE262013CSCC]